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RESHAPING AMERICA'S DEFENSE TRADE POLICY

by

Shannon M. Sullivan, Lt Col, USAF

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## *Preface*

The topic of defense trade policy had never been a burning issue in my heart. It was chosen, instead, as a tool to understand the broader machinations of government. I therefore came into the project with few preconceived notions, and I did not realize how vital this policy was to NATO interoperability, US economic strength, or our political influence abroad. Fortunately, Mr. Christopher Makins, President of the Atlantic Council of the United States, did appreciate these factors, and he steered me into what became a fascinating research project. The recommendations provided in this paper are not from a learned expert who has been studying the issues for years. Rather, they come from a relative outsider, and perhaps because of that, the paper can offer a fresh look at an old and ever changing subject.

A couple of broad thanks, and then on to the specific: First, thanks to the Air Force and the staff at Maxwell AFB for supporting an outstanding senior fellows program. It has been an invaluable exploration into the politics of defense. Thanks to the Atlantic Council of the United States for their time and effort in broadening my perspective of how the players and influences inside and outside of government come together to form policy. Finally, thanks to the Institute of National Security Studies for providing the funds to travel to London and speak with representatives from the UK's government, industry, and academic communities.

Throughout this project I've spoken with a number of people who candidly shared their opinions on the strengths and weaknesses of defense trade policy. I won't go into thanking them all, but I would like to point out several who not only made time during their busy schedules to discuss the issues, but they also took a great deal more time in reviewing this paper. Colonel Lew Thompson, Mr. Jim Durso, and Dr. Alex Ashbourne went above and beyond to provide constructive criticism and encouragement. I don't believe they agreed with some of the conclusions, but to their credit, they accepted the results and applauded the exploration of the issues.

Finally, my love and thanks to Jane, Natalie, and Brendan. They supported some late nights and weekends of research and writing, and we had a great year to boot!

### *Abstract*

Globalism is altering military, economic, and political forces, and their confluence has become out of balance with respect to defense trade policy. This paper asks the question, “Are U.S. defense trade policies achieving an effective balance between technology transfer, security, and economic growth?” A variety documents, articles, speeches, and books are reviewed to gain an appreciation of the arguments surrounding US defense trade policy. Interviews are also conducted with individuals from the US and United Kingdom governments, industry, and academic community.

While the current policy protects critical technologies, it also guards technologies obtainable through other sources. Additionally, it also alienates the US military from its allies, prevents industry from developing markets, and stimulates unwanted arms production and proliferation abroad. US resistance to multinational cooperation is further undermining the development of a more effective policy of controlling armament exports.

Three areas are recommended for improvement: 1. Reconstruct the export licensing process by overhauling the munitions list, increasing resources, reducing congressional review, and assessing enforcement effectiveness. 2. Stop sheltering industry with protectionist policies and practices, reevaluate international merger frameworks, and encourage a cooperative global industrial base. 3. Support international cooperation through the Defense Trade and Security Initiative, DoD liaisons in the European Union, joint ventures, and an effective conventional arms control regime.



## **Chapter 1**

# **US TRADE POLICY**

## **Challenges**

Research paper over the past decade seem to begin with the obligatory statement that the world has changed because of globalism, the collapse of the Soviet Union, and the revolution in information technologies. This paper is no exception. As a result of these dramatic changes, the threat has become more dispersed and asymmetric, advanced technologies and their suppliers have multiplied, and allied capabilities have steadily grown apart.

America's military, and political instruments of power (IOP) have not adapted quickly to these changes. How should they balance the need for economic growth and prosperity with the threat of technological proliferation to potential commercial and military opponents? How should allies, who are falling farther behind the US in military capability, be encouraged and aided in regaining their former interoperability and cohesion? How should policies be adapted to deal with multinational corporate giants, whose arms stretch across continents, political systems, and sovereign laws?

Merger restrictions, export controls, and international institutions have been the major tools used by the US in controlling the flow of technology, but critics claim that the current regime is based on a Cold War model that has long past its usefulness.

Defenders of the current system, however, believe that although it could be updated, it still provides a viable mechanism to prevent the loss of vital capability while allowing industry to prosper.

## **Problem Statement**

**Research Question.** This paper will answer the question, “Are U.S. defense trade policies achieving an effective balance between technology transfer, security, and economic growth?”

**Relevance.** US trade policy, and more specifically, the export control process, has long been criticized as overly restrictive, protectionist, and bureaucratic. The Department of Defense (DoD), with the Department of State (DoS) in tow, has embarked on a crusade to change the way the US shares and protects technology under the Defense Trade Security Initiative (DTSI). Their goal is to aid allies in upgrading their aging system, build coalition interoperability and cohesion, and share development costs. Industry is keenly interested in the outcome, because international mergers and partnerships are providing new markets and opportunities in an otherwise flat defense budget.

Opponents argue that providing easier access to superior US technology will undermine the US’s ability to project power. Though they admit that economic growth is important, they counter that the need for global security dictates a strict regime of checks and balances provided by the current system. It is imperative that the US finds a balance between the opposing forces if it is to protect and support its vital interests, and continue as the world’s economic and military leader.

**Limitations.** Export controls touch everything from legislative changes to international nonproliferation organizations. An attempt was made to review the essence of these influences, however, time prevented a thorough assessment of each. The paper also does not capture the political bargaining and intrigue of creating national policy, nor does it delve into the arcane details required to rewrite the existing laws.

The paper also uses the opinions of a select group to form many of the recommendations. While the interviewees are certainly experts in their fields, a more encompassing study focused on each area of contention is required to implement specific solutions. Finally, the paper lacks a detailed analysis to correlate the current policies and procedures with what is occurring in the global arms markets and capabilities of foreign militaries. A cost benefit analysis is long overdue.

**Definitions and Assumptions.** Export controls effect two different sets of equipment: those controlled by the Department of State under the United States Munitions List (USML), and dual-use technologies controlled by the Department of Commerce on the Commerce Control List (CCL). For the purpose of this paper, “export controls” refers to those items protected under the USML. Likewise, US trade policy is comprised of many components, but this paper focuses on two critical pieces: the export licensing process and international merger requirements.

The term “proliferation” also requires further definition. Typically proliferation refers to technologies associated with weapons of mass destruction (WMD) and missiles. Nonproliferationists in this paper are also concerned with a broader set of technologies to include everything from computers to jet engines. Finally, joint programs are not only those that include the US services, but also international partners.

## **Methodology**

A variety of documents, articles, speeches, and books were reviewed to gain an appreciation of the arguments surrounding US defense trade policy. US government interviews were conducted with individuals in the Departments of Defense, State, Justice, and Commerce. Discussions were also held with representatives in the office of White House Council of Economic Advisors, Congress, industry, and the academic community. Additionally, interviews were conducted in London with representatives from the United Kingdom's (UK) government, industry, and research communities. UK representatives were singled out, because they are on the leading edge of new cooperative trade arrangements. Interviewees were asked their views on the current export regime, implications of on-going initiatives, current enforcement efforts, and areas for improvement. The author then analyzed the information and produced a list of recommendations.

## **Summary of Findings**

The current policy for controlling exports is failing to balance economic, political, and military goals. Fortunately, the system is erring on the conservative side by not only protecting critical technologies, but also sheltering many technologies that can be obtained through other sources. This over conservatism is alienating the US military from its allies, preventing industry from developing lucrative markets, and stimulating unwanted arms production and proliferation abroad. Furthermore, US resistance to multinational cooperation is undermining the development of a more effective policy of controlling armament exports.

Most documents and interviewees agreed that the current export control system was sorely in need of improvement. Some felt that the system could be modified to meet current challenges, while others believed that a major overhaul was the only solution. On-going initiatives were equally praised and criticized, but most saw that the opportunity to change and improve the system was worth the effort. There was no consensus reached on how to improve the process, but valuable insights were provided.

Three areas are recommended for improvement: Reconstructing the export licensing process, stop protecting industry, and support international cooperation.

### **Reconstruct the Export Licensing Process**

**Overhaul the Munitions List.** The USML has become cumbersome and antiquated. The DoD needs to lead a combined agency review from grand strategy down to specific technologies, processes, and integration knowledge to determine what is truly threatening to US vital interests.

**Increase Resources.** DoS has largely ignored the manning and facility needs of the Office of Defense Trade Controls (DTC), which reviews license applications. Congress and the DoD have stepped in to help remedy the situation, but the DoS meet their obligation of adequately supporting DTC. In addition, the DoD should double the manpower assigned to DTC, in order to speed the process, encourage cooperation, and affect export policy change.

**Reduce Congressional Review.** The requirement to notify Congress for major defense exports has placed a bottleneck in the system. Staffers must be notified 20 days before a license package arrives at Congress, and then Congress has 15 days to act. Unfortunately, the limited time that Congress is in session to review packages, and the

interactions between congressional staffers and the DoS, can add months to the review process. The system of notification must be amended to allow timely processing while providing Congress with the insight they feel is absolutely necessary.

**Assess Enforcement Effectiveness.** A study must be undertaken to determine the effectiveness of the intelligence community in evaluating technology proliferation and export policy compliance. Post Cold War changes in the strategic environment have altered the manner in which a country obtains and refines its military capabilities. There is some doubt as to whether information on the aggregation of technology is adequately addressed and compiled, and it is uncertain how well compliance with export laws is assessed. To aid in the compilation of information, electronic tools should also be utilized to allow intelligence, enforcement, and licensing communities to share and collaborate on export information.

### **Stop Protecting Industry**

**Allow Capitalism to Work.** The concept of a Cold War defense industrial base must be reevaluated to determine what is truly necessary to protect and maintain. The current system of an insulative export control regime and a protectionist congress is distorting the capitalist model of competition. The end result is that the taxpayers are paying more for capability, and the DoD is getting less than innovative solutions.

**Minimize Government Friction.** The current export licensing system is an anachronism that must be replaced if industry is to compete effectively in the global arms market. That is not to say that all controls should be lifted, but rather, a limited set of defined technologies, processes, and knowledge should be protected and controlled by a streamlined export process.

**Reassess Merger Requirements.** The imposition of proxy boards on US-based companies owned by foreign entities should be discouraged. The practice of preventing foreign owners insight into the operations and planning of their US-based company is impractical, and it discourages valuable foreign direct investment in the US. Special Security Arrangements offer a compromise, which should be exploited to the fullest. Additionally, the US government should proactively engage its European counterparts to discuss how multinational mergers at the prime contractor level should be managed, since their occurrence is imminent.

**Encourage A Hub and Spoke Model.** Instead of direct competition with European countries who subsidize much of their defense industry, the market should be divided into prime integrators, and niche and manufacturing suppliers. If the US is to create a global security regime, which relies on its partners to share a greater portion of the burden, it should be able to find common ground on how to maximize the efficiency of a global defense industrial base.

### **Support International Cooperation**

**Encourage DCI and Expand DTSI.** The Defense Capabilities Initiative (DCI) and the Defense Trade Security Initiative (DTSI) are attempting to correct the US-Allies capability gap, trade and transfer issues, and enforcement collaboration. Although there are significant issues with these initiatives, they hold the potential to improve both security and economics, and should therefore be pursued. They are not the final solution, but only a beginning for broader and more comprehensive change.

**Increase DoD Multinational Cooperation.** The European Union (EU) is a growing political, economic, and military force in Europe. The DoD has had more experience and

success with multinational cooperation through NATO, than any other part of the US government. The success must be built upon by developing permanent relations with the EU and other burgeoning political/military alliances. The DoD must also allow allies into the US strategic planning process, and to look abroad for materiel solutions.

**Support Joint Ventures.** The Joint Strike Fighter (JSF) is a template for joint venture success. It allows sharing the cost burden, provides allies with an interoperable and capable system, supports the defense industry, and reduces unwanted proliferation. Failure to keep US commitments to the JSF program would be a colossal embarrassment to the US government, it would further aggravate the capabilities gap, and it would cripple the US aerospace industry.

**Negotiate An Arms Control Agreement With Teeth.** The Wassenaar Agreement is a first tentative step towards slowing the high-tech arms race, but it is woefully inadequate. A much stronger commitment is required of members to allow countries the right of self-defense without the destabilizing effects of an arms race. Certain technologies and processes should be protected, and a more effective method of compliance and enforcement must be established.



## **Chapter 2**

### **Searching for Equilibrium**

#### **Instruments of Power**

Defense Trade policy results from an intermingling of all three instruments of power. Each IOP has a constituency base comprised of members of all three instruments, but one group is dominant. The military instrument, for instance, is clearly the domain of the Department of Defense, but politicians, the public, and industry all have a vested interest in peace and security. To understand how policy is developed and the varying agendas of the participants, it is helpful to understand how these instruments support and detract from each other.

#### **The Economic Instrument of Power**

Industry, whose chief concern is profit and growth, is the primary holder of influence in the economic IOP. In order to grow, industry must seek to develop new markets and increase market share. Under a perfect competition model, a company would attempt to produce the best product at the cheapest cost, which would in turn spurs an increase in market share at the expense of competitors. Some of the obstacles to free and open competition are barriers to market entry, laws restricting the flow of goods and services, and the cost and availability of human and material resources.

One of the features of the capitalist system is that it tends to punish inefficiencies resulting from protectionism. Although France may heavily subsidize and protect its farmers, the country as a whole is hurt by higher prices, and it is denied able-bodied individuals who could be filling a more competitive niche in the society. On the other hand, a foreign country may attempt to dump subsidized goods, or those produced under harsh conditions, on a local market, thereby disrupting the economy. The political IOP must balance these factors to support free trade while protecting industry against foreign abuses.

While not readily apparent, an economy's ability to demand fair and open trading, and to ensure the safety of its products and workers abroad, is dependent on the perceived strength of its military. Military power, if merely as a force in being, commands respect, and sometime acts to intimidate those who would threaten the capitalist's rights. The economic IOP therefore also looks for support from the military IOP.

### **The Military Instrument of Power**

The military IOP's objective is to support foreign policy. Whether in war, peacekeeping, humanitarian intervention, or a show of force, the military stands ready to act. Its enablers are advanced capabilities, proven doctrine and organizations, a robust force structure, and alliances. The IOP is dependent on the strength of the economy. Without a strong economy, and the absence of an immediate threat, funding will be cut, personnel will be reduced, equipment will age and fall into disrepair, and training will suffer. Additionally, the military depends on the political IOP to extract funds from the economy for defense.

Some of the obstacles to a strong military are limited resources, lack of a unified coalition, and technology proliferation—and here is the first rub regarding export controls. If an economy is to grow and flourish, it must be unhindered to exploit markets and sell products. If those products are defense related, however, selling them to potential enemies threatens the military's ability to protect the country and its vital interests. Preventing all sales weakens the economy, increases equipment costs, and denies allies useful, interoperable capabilities. Without US technology, allies are less able to support a common defense policy and they will be angered by the lack of US trust.

### **The Political Instrument of Power**

The political IOP is the domain of Congress and the executive branch. They ensure the state's interests are protected and nurtured, while providing for the local needs of their constituency. They engage foreign governments to open markets, ensure there are fair and equitable global agreements to provide sources of labor and materials, and protect security interests by funding a military. The tools used by the political IOP to achieve its goals are laws and policies, which encourage economic growth, yet protect the industrial base and its associated jobs.

A strong globalized US economy aids political practitioners to economically and politically manipulate foreign governments. Foreign economies become dependent on US goods and services, and politicians become fearful of, or grateful for, US military might. In regard to defense sales, the political instrument must balance the benefits of prosperity and alliance cohesion, with technology proliferation and local job loss. Their control valve is the export processing system.

The interplay of fostering a strong globalized economy, preserving the defense industrial base, denying technological proliferation, and influencing international cooperation is a delicate balancing act that revolves around US trade policy. The export control process was not created out of inspired thought of our forefathers, but has evolved as a result of circumstances of the day. To better understand current policy, it is helpful to look at how it evolved.

### **The Evolution of Export Control Policy in a Nutshell**

Export controls are not new to the modern world. Pericles of Athens, in 432BC, prohibited commerce with his nemesis the Megarians. In 1179, 1215, 1245, 1304, and 1454, the Pope issued precepts to stop the flow of dual use technologies—those that could be used for commercial or military purposes—from the Muslims. The penalty was excommunication or imprisonment.<sup>1</sup>

To jump forward, there have been four leaders who were faced with dramatic changes in the strategic environment, and as a result, they set the tone for the US export policy following World War II. Harry Truman, Dwight Eisenhower, George Bush, and Bill Clinton each set effective policy given the demands of the domestic and international environment of his day.

#### **Harry Truman**

The Truman administration was at a pivotal point in history as the balance of power between states shifted from a multi-polar world to a nuclear-armed, bi-polar one. Once the true nature of the oppressive and aggressive Soviet Union was confirmed, Truman moved quickly to prevent the flow of nuclear secrets to the East. He had the choice of

pushing the United States into a more unilateral, isolationist regiment of controls, which many battle weary Americans favored, or to look for international cooperation. Because he was able to tie his export control policy to that of stopping communist expansion, he set the stage for continued international cooperation and growth with the West.<sup>2</sup> His desire was to create an organization to coordinate international defense export policies and processes while limiting friction to free trade.

The detonation of the Soviet's atomic bomb in August 1949 fueled Truman's case with the European allies. In January of 1950, Belgium, Canada, France, Italy, Norway, the UK, and the US formed a high-level Consultative Group to review export policy and a day-to-day working group called the Coordinating Committee for Multilateral Export Controls (COCOM). COCOM's operations were the foundation for controlling the export of technology well into the 1990s.<sup>3</sup> In early 1950, COCOM developed a three-tier system to track exports: Tier I designated embargoed items, Tier II contained qualitative controls, and the Tier III technologies list called for government scrutiny of all transactions.<sup>4</sup>

### **Dwight Eisenhower**

President Truman's successor, Dwight D. Eisenhower, approached export controls from a different perspective. He believed in the power of business to promote American ideals and provide strength to the nation through a strong economy. Instead of the broad measures that Truman advocated to control nuclear technology and the spread of communism, Eisenhower preferred a more limited set of selectively targeted controls.

He feared Eastern European countries in the Soviet Bloc would grow more dependent on the Soviets as they became isolated from the West. However, Richard

Cupitt in *Reluctant Champions* states, “Eisenhower discovered that political and diplomatic forces seemed to outweigh economic and strategic influences in determining export control policy.”<sup>5</sup> Truman had Korea and the atomic bomb to shape his policy, while Eisenhower had McCarthy and the expanding influence of the Soviet Union in the third world.<sup>6</sup> Those two factors inflamed American society against communism and forced Eisenhower to limit the degree in which he relaxed export controls.

While there were changes in export controls with each administration, they were generally governed by the level of détente between the Soviet Union and United States.<sup>7</sup> Even though the controls varied between the Truman and Eisenhower schools of thought, they continued to be based on nuclear security and containing communism. Not until the collapse of the Soviet Union was there an opportunity to significantly change the export regime.

### **George Bush**

Changes in international and domestic influences were shifting prior to George Bush’s ascendance to power, but it was President Bush that altered the export dialogue. The launch of the Indian space program in 1980, the war between Iran and Iraq using missiles with biological or chemical agents, Israel missile launches, and Chinese sales of missiles to Saudi Arabia all demonstrated the need for additional groups to slow the spread of certain conventional technologies.

The most immediate and visible threat was the combination of missiles and chemicals. In 1985, the Australia group was formed to control the flow of chemical weapons, while the Missile Technology Control Regime (MCTR) was assigned missile systems.<sup>8</sup> With Iraq’s invasion of Kuwait in 1990, the Bush Administration stepped up its

push to control other conventional and dual-use technologies with the Enhanced Proliferation Control Initiative (EPCI).<sup>9</sup>

COCOM was also reforming itself from a Cold War stanchion to deal with the changing world order. In November of 1992, they created the COCOM Cooperation Forum and invited Russian and other former Warsaw Pact members to join.<sup>10</sup> The goal was to create a global organization to discuss, coordinate, and control proliferation.

Despite the collapse of the Soviet Union, the Bush administration did not push for relaxing defense exports until February of 1990.<sup>11</sup> The change came as administration officials correctly interpreted the public's security perception shift from the halt of communism to the fear of proliferation of critical technologies. Once that link was made, administration officials quickly moved to alter export control policies and encourage new international organizations targeting proliferation.<sup>12</sup>

The changes were not without their challenges, though, and exceptions to the rules abound. Licenses totaling over \$1.5B of COCOM-controlled items flowed to Iraq from 1980 to July of 1990, which haunted Bush during his reelection campaign. Additionally, only a few days before the EPCI went into effect, the administration approved the sale of supercomputers to Brazil and India, and high performance computers to China—all of which were in direct violation of EPCI. Richard Cupitt suggests, however, that the computer sales may have been necessary to coalesce the anti-Iraqi coalition.<sup>13</sup>

The fall of the Soviet Union gave the Bush administration the opportunity to alter the national security mix away from the containment of communism and toward stopping the spread of potentially lethal technologies around the world. Though these forces

continued, the Clinton administration was poised on the edge of an even greater shift in strategic influences: the ascendance of economic development over national security in setting foreign policy.

### **Bill Clinton**

Bill Clinton swept into office in January of 1993 on a mandate for change. The economy was poised to begin its longest sustained economic growth in history by riding the wave of technology. Information technologies and America's entrepreneurial spirit would intertwine the US across the globe as never before. Economic success, in combination with America's military prowess in Desert Storm, Bosnia, and Kosovo, would alter the public's concern from security to prosperity.

The administration had an unusual partner in this shift—the Department of Defense. The DoD recognized that the change in public attention meant dwindling budgets and reduced force structure. In order to maintain the technological superiority that had served them so well during the Cold War, they required a solution to keep development costs down and innovation up. A method of defraying research, development, and procurement costs was to share the financial burden through exports and international cooperation.<sup>14</sup> Finally, the administration was supported by a report from the National Research Council, which stated that nonproliferation controls were so ineffective, that the US could gain more through economic strength by relaxing them.<sup>15</sup>

There were three major options open to the president to deal with the defense trade policy: 1) maintain the status quo by retaining the nonproliferation standards; 2) adopt a rogue state policy, which primarily isolated the four states of Iraq, Iran, Libya, and North Korea, but opened exports to most others; or 3) Maintain current structures, but liberalize



what was controlled. Option 1 had clearly lost its mandate. Option 2 was too liberal to win over conservatives, and it was too difficult to build a policy on an obscure measure of “rogueness.”<sup>16</sup> Option 3 was clearly the option of choice, which would allow Clinton to push his globalist agenda while retaining the support of Congress.

In April of 1993, the administration moved further towards eliminating the old export vestiges by calling COCOM a product of the Cold War and recommending its dissolution. In March of 1994, it was gone with the promise by members to create a new organization with a more inclusive membership and a more global perspective.<sup>17</sup> In September 1995, its replacement, the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies was established. The Arrangement’s members were required to belong to all the other nonproliferation organizations and agree that Iraq, Iran, Libya, and North Korea were a “serious concern.”<sup>18</sup>

Finally, in February 1995, the Clinton administration published its Conventional Arms Transfer Policy, which highlighted the value to economic and military strength by encouraging arms export. Congress backed the policy with \$15B to supporting the export of defense items.

As with all policy changes, the Clinton administration had ample critics and detractors. First, the Arms Export Control Act was suffering miserably in congress. Clinton had to repeatedly publish executive orders stating a national economic emergency existed, in order to implement the current nonproliferation controls. As Richard Cupitt points out, “With some sense of irony, U.S. officials continued to emphasize to officials in the post communist states and elsewhere that an effective

system of export controls depended on a strong export control law at its foundation.”<sup>19</sup> He adds, “Not only did the administration fail to develop a compelling rationale for its new export control policy, it eventually abandoned the legislative battlefield to Congress.”<sup>20</sup> Further criticisms erupted in February 1996, when a Chinese missile, carrying a Loral Space and communications satellite, exploded on the launch pad. The satellite contained two sensitive circuit boards, which some members of Congress feared would fall into the hands of the communists. Although it was later determined that no technology was lost, the alarm that ensued dampened further liberalization efforts.<sup>21</sup>

A final criticism, which will be examined in further detail later, was the effectualness of the Wassenaar Arrangement. While the membership is more inclusive, the Arrangement relies on members to “implement an effective export control system and adopt appropriate national policies,” which are enforced by a non-binding agreement to cooperate with members. Without structure and penalties, the system has had little effect on containing proliferation.<sup>22</sup>

## **Summary**

In the beginning of the Cold War, both Truman and Eisenhower struggled with adjusting to the new world paradigm. “Officials in the Truman and Eisenhower administrations, moreover, defined the conflict as one that addressed entire social, moral, economic, and political systems. Anticommunism, as a rationale for export control policy entailed the assumption that all communist states were deadly and committed adversaries.”<sup>23</sup>

The Bush and Clinton administrations faced a new challenge, the proliferation of dual-use, conventional, and nuclear technologies to a variety of potential adversaries.

Clinton had a further mandate for change as economic forces gained in the public's eye over security threats. Additionally, both Bush and Clinton were able shift from imposing controls on a purely country and technological basis, to one of end-use and user.<sup>24</sup>

### Notes

<sup>1</sup> Richard T. Cupitt, *Reluctant Champions: U.S. Presidential Policy and Strategic Export Controls* (New York, N.Y.: Routledge, 2000), 33.

<sup>2</sup> *Ibid.*, 16.

<sup>3</sup> *Ibid.*, 72.

<sup>4</sup> *Ibid.*

<sup>5</sup> *Ibid.*

<sup>6</sup> *Ibid.*, 83.

<sup>7</sup> *Ibid.*, 213-214.

<sup>8</sup> *Ibid.*, 124-125.

<sup>9</sup> *Ibid.*, 141.

<sup>10</sup> *Ibid.*, 148-155.

<sup>11</sup> *Ibid.*, 120.

<sup>12</sup> *Ibid.*, 156.

<sup>13</sup> *Ibid.*, 141.

<sup>14</sup> *Ibid.*, 164.

<sup>15</sup> *Ibid.*, 163.

<sup>16</sup> *Ibid.*, 168.

<sup>17</sup> *Ibid.*, 173-174.

<sup>18</sup> *Ibid.*, 200-201.

<sup>19</sup> *Ibid.*, 183-187.

<sup>20</sup> *Ibid.*, 208.

<sup>21</sup> *Ibid.*, 197.

<sup>22</sup> *Ibid.*, 200-201

<sup>23</sup> *Ibid.*, 213-214.

<sup>24</sup> *Ibid.*, 214.

## **Chapter 3**

### **The New World**

Powerful events and forces have changed the world over the past decade. Communist rule in the USSR collapsed, information technologies brought the world closer, and new types of threats and instabilities pushed it apart. This chapter looks at the effects of globalization and how those effects have changed the armament industry.

#### **Globalization**

“Globalization—the integration of the political, economic and cultural activities of geographically and/or nationally separated peoples—is not a discernible event or challenge, is not new, but is accelerating. More importantly, globalization is largely irresistible. Thus, globalization is not a policy option, but a fact to which policymakers must adapt. The so-called Revolution in Military Affairs is, at least from a technology availability standpoint, truly a global affair.”<sup>1</sup>

The Defense Science Board Task Force on Globalization and Security described factors that are accelerating this trend:<sup>2</sup>

1. Collapse of communism and end of the Cold War
2. Spread of capitalism and free trade
3. More rapid and global capital flows and more liberal financial markets
4. Liberalization of communications
5. International academic and scientific collaboration
6. Faster and more efficient forms of transportation
7. Information revolution

They further articulated the effects of globalism on the defense industrial base as follows:<sup>3</sup>

1. Growing reliance of commercial technology
2. Complexity of commercial products, making testing component-level difficult
3. Global availability of military-specific technology
4. Declining US lead in dual-use technology
5. Suppliers migrating to open networks
6. Growing number of foreign-owned suppliers
7. Availability and mobility of advanced technology workforce

The result has been extensive defense mergers within the U.S. and Europe creating international giants whose arms production is spread across an assortment of countries. Governments have become active and willing participants in encouraging global arms sales, thereby working against their own nonproliferation regimes. Due to the commercial nature of information technologies, and declining defense budgets around the world, commercial industry has assumed a larger role in defense procurement and proliferation. Lastly, because of the strong economy, the large defense layoffs have been readily absorbed by commercial industry, further dispersing defense workers into the private sector.<sup>4</sup>

### **The Industrial Base**

As the threat of nuclear war diminished, the world arms market decreased by 50% over the past decade. The resultant drop, along with the proliferation of suppliers, led countries to become smart shoppers—looking for the most advanced technology at the best price. Instead of attempting to develop a robust military infrastructure, they are selectively posturing themselves with limited high-tech capabilities to meet their regional needs. In addition to shopping abroad, they are pursuing indigenous capabilities through

their own research and development efforts, licensed and co-production work, and commercializing their defense industry. In order to sustain their industrial base, armament-producing countries, like the United States, are also aggressively seeking offshore markets.<sup>5</sup>

The DoD is no exception to the downsizing trend. Since its budgetary high in the 1980s, it has cut procurement by 70% and research and development (R&D) by 25% in real terms. To make the best use of remaining dollars, the department has looked to commercial industry development for the next generation of weapon systems. Acquisition streamlining initiatives have also gained new strength, and there has been a shift from expensive platform and weapons procurements to information technology capabilities. Unfortunately, due to the proliferation and commercialization of technology, many experts now believe that the US military's technological advantage cannot be sustained at its present level. Some suggest the US must attempt to achieve military superiority by becoming the best integrators of commercial technology.<sup>6</sup>

A report by the Center for Strategic and International Studies (CSIS) stated that 20 years ago manufacturing was where profits were achieved, but now it is in systems engineering—linking sensors, computers, avionics, and weapons control together. “In today's combat aircraft nearly 50 percent of the final costs come from the avionics, sensors, fire control, and weapons systems, components that two decades ago comprised barely 20 percent of the total costs.”<sup>7</sup>

The US defense companies are cooperating with the vision of becoming an integrating power by creating vertical industries, in which an entire weapon system can be developed under one company's flag. It is believed that tighter development team

cohesion will provide a conduit for quicker and better integration solutions.<sup>8</sup> Through multinational competition, it is assumed that the defense industry behemoths will still have incentive to offer innovative, competitive solutions while reducing R&D and procurement costs.<sup>9</sup>

The Defense Science Board's Task Force on Preserving a Healthy and Competitive U.S. Defense Industry concludes, "Thus the defense industrial base is in essence entering a new paradigm, an era of rapid technological change (often commercially driven) smaller production runs and fewer new starts and an increasingly international business base. In this era, new ways of doing business are imperative."<sup>10</sup>

### **Evolving Threat**

Two fundamental changes seem clear: first, we will see more short, intense regional conflicts—often followed by extended periods of peacekeeping. And second, our military will seek to project power without putting a large number of forces at risk. Massed forces will be replaced by massed firepower, precisely placed on targets. Modern, so-called "reconnaissance/strike" warfare (often referred to as the essence of the "Revolutionary In Military Affairs") is based on two things: real-time, all weather, accurate and secure information systems, combined with long-range, unmanned, "brilliant," highly-lethal weapons designed to achieve precision kills...we simply cannot fight effectively as a coalition unless we have fully interoperable equipment and communications—and they all must be secure and dependable. Cost reduction, from armaments cooperation, while an important side effect, is a secondary goal,<sup>11</sup> stated Jacques Gansler, Undersecretary of Defense for Acquisition and Technology

Three trends have developed in the availability and capability of military equipment. First, the weapons arsenals of countries are becoming more sophisticated. Russian arms sales are so perverted that they are now selling weapons, such as the MiG-29, which are not integrated into their own forces. Against US objections, they are also supplying

rogue nations such as Iran with advanced nuclear and missile tracking technologies.<sup>12</sup>

“The US and UK develop equipment for our own forces first. The French develop for overseas sales...and the Russian defense sector is designed to bring in hard currency.”<sup>13</sup>

Second, nations who cannot afford new equipment are buying older systems and upgrading them with the latest technology. Israel re-exported US advanced technology to include avionics and missile guidance systems to enhance Chinese weapons systems.<sup>14</sup> Pakistan is the only country in the world with the capability to upgrade T-59 Tanks. Many of the 20,000 T-59 tanks around the world are in Africa. Increasing their lethality will only fuel a new arms race on this war torn continent.<sup>15</sup>

Third, states now have a much better opportunity to buy the best technologies and integrate them to create a superior fighting system. The Russians have created powerful radars, but they lack the signal processing capabilities of western aircraft. French industry is working with Russia to incorporate sophisticated western algorithms and electronics for Russia’s domestic and export markets.<sup>16</sup>

Perhaps the US’s greatest potential adversary, and a leading importer of the international technology, is China. “China will be exploiting advanced weapons and production technologies acquired from abroad—Russia, Israel, Europe, Japan, and the United States—that will enable it to integrate naval and air capabilities against Taiwan and potential adversaries in the South China Sea.”<sup>17</sup> The bottom line is that potential adversaries now have the opportunity to—relatively cheaply—tailor their capabilities to the region and US asymmetries.<sup>18</sup>



## **Industry Consolidation**

**The United States.** “During past wars, from the Civil War to the Second World War, the governments (as it had in the past) relied on private industry to expand existing defense production, convert existing commercial capacity to production of war material or to operate the new plants and factories built with government funds. What differentiation there was between commercial companies and those supplying defense products to the government was a function of the inherent differences in the goods themselves.”<sup>19</sup>

The Cold War and its eminent threat of a rapid, hot war, dictated the need for an immediate response. Unlike the industrial complex of pre-World War II America, the military could not afford a ramp-up time, and therefore the defense industrial base required sustained support. The Soviet launch of Sputnik, and their 50,000 tank armies, further emphasized the need for technological superiority. The result was a defense industrial complex consisting of laboratories, manufacturing plants, test facilities, and depots spread across the country.<sup>20</sup>

With the enormous flows of federal money, there were bound to be unintentional and intentional abuses, which were never far from public scrutiny. Congress reacted by increasing the level of government oversight and regulations. The DoD also contributed to industry controls by demanding adherence to strict standards, which adhere to the demands of the battlefield. Not only was industry required to develop sophisticated, highly specialized technologies, but they had to conform to laws dictating “socio-economic equity, competition in the market place, close and careful accounting of the taxpayer’s dollars, and the prevention of casualties through defective manufacturing.” As

a result, a highly specialized sector developed that was ready to defend against communist hordes, but ill-prepared to work closely with commercial industry.<sup>21</sup>

As the Cold War ended, employment fell from 1,400,000 in 1990 to 878,000 in 1999, and defense firms consolidated from 36 in 1993 to 8 in 1999.<sup>22</sup> Mergers, which the DoD had once encouraged, now became a concern over massive prime contractors monopolizing certain sectors of the defense market. The Federal Trade Commission was equally wary, and when questioned by the Armed Service Committee, its chairman, Robert Pitofsky testified, “The Commission is sensitive to considerations of national security and in particular that a merger will enable the Defense Department to achieve its national security objectives in a more effective manner. The commission strongly believes, however, that competition produces the best goods at the lowest prices and is also most conducive to innovations.”<sup>23</sup>

Investors were also worried about overcapacity and the difficulty of consolidation, which drove stock prices downward.<sup>24</sup> Debt ratios rose from 12.9% in 1993 to 50.4% in 1999, and bond ratings dropped precipitously for many.<sup>25</sup> To make matters worse, as mergers continued, capacity remained constant. There were “eight lines producing military aircraft, six private yards building large warships, five helicopter companies totally dependent on military purchases, and four missile manufactures.”<sup>26</sup>

To further complicate industry woes, the Pentagon stopped three mergers on monopolistic grounds. They blocked an \$11.8B deal between Lockheed Martin and Northrop Grumman, a \$2B deal between General Dynamics and Newport News, and a \$1.9B union between Litton Industries and Newport News.<sup>27</sup> Each denial was followed

by a battering on Wall Street and frustration within industry at the confusing signals sent by the DoD.

In the end, the DoD turned out to be the real winner in the merger frenzy. A General Accounting Office (GAO) report stated that for every two dollars saved by the government through consolidation, industry only saved one.<sup>28</sup> The DoD continued to encourage the merger process through direct and indirect subsidies, but industry was quickly learning that moving between the defense and commercial world may sound simple, but it had its pitfalls.<sup>29</sup> For example, the machinery was slightly different between the two worlds, and although personnel could make the transition with less difficulty, that too had associated costs.<sup>30</sup>

**Europe.** Europe was also experiencing consolidation pains as budgets plummeted. For example, in the top three defense budgets, the UK was down 35.5%, Germany fell 28.4%, and France dropped by 16.1% in constant currency.<sup>31</sup> Even more critical, European overcapacity and redundancy was worse than their American counterparts. In 1993, European industry produced 123 separate weapons systems, compared to 55 in the US, to include: 16 armored vehicles (3 in the US), 7 fighters (5 in the US), and 7 assault rifles (1 in the US).<sup>32</sup>

One of the more defining mergers, for European industry was British Aerospace's (BAe) merger with British Marconi Electronic Systems. Until January 1999, BAe had been negotiating with German DASA, but they abruptly changed their plans and joined with Marconi instead.<sup>33</sup> The German and French governments complained that the British giant would undermine European consolidation.<sup>34</sup> Britain's Prime Minister, Tony Blair, had also encouraged the trans-European venture to solidify ties to the continent, but BAe

officials realized they were limited by the size of the European market. They may have also seen the consolidation taking place on the continent. Within a year and a half, the European giant, the European Aeronautic Defense & Space Company (EADS), would control much of the market. With no large ties on the continent, BAe was now forced to look to transatlantic mergers to solidify its position.<sup>35</sup>

The US Justice was also concerned with BAe's move, not for fear of US mergers, but concern that the combination of BAe and Marconi would control the UK markets, thereby locking out potential US business.<sup>36</sup> Dr. John Hamre, Deputy Secretary of Defense, stated the merger is a "very damaging development" and he was "very worried about where our allies are heading."<sup>37</sup> Although the US could not stop the merger, power brokers such as Hamre and Secretary of Defense William Cohen could have a significant effect on how much business BAe does in the US.<sup>38</sup>

Regardless of concerns by the US and European governments, two national champions had appeared on the European scene: BAe Systems and EADS. Together they control about 70% of the prime contractor business. With the consolidation, competition in Europe has been drastically reduced, and often there is only one prime contractor in key defense sectors such as missiles, aircraft and space.<sup>39</sup> Other issues also arise that are largely avoided in the single-government environment of the US. In Europe, governments often resist multi-national restructuring, they can't agree on export policies, there are varying national requirements for the specifications for equipment, labor laws can be highly restrictive, and there is no legal structure for multi-national ventures.<sup>40</sup>

**Transatlantic Mergers.** With much of the consolidations complete on both continents, industry now looked overseas to continue the process of integration and

increased market share. Lockheed Martin's Vice President for International Programs, Rick Kirkland, described their position: 90% of the business base is in government programs, and 23% of that work is international, totaling \$288B. Lockheed faces three realities. First, sales must increase to increase profits, and the US market is flat. Second, many contractors below the prime-level have already merged with Europe, and third, to be competitive a company must be integrated worldwide.<sup>41</sup>

International mergers are still more of an anomaly than the standard. The volume of European mergers and acquisitions between 1993 and 1999 was \$35.6B. Whereas their transatlantic unions only amounted to \$1.5B.<sup>42</sup> Still, precedents have been set. Perhaps the most significant gain BAe experienced in its merger with Marconi was to acquire Marconi's subsidiary, US-based Tracor. Tracor is a 10,000-person company that does a large amount of defense work, to include highly classified programs. In an indirect move, France's Thomson CSF bought the UK's Racal, which provides easier access to the US market (US trade restrictions are lower for UK companies).<sup>43</sup>

One peculiar aspect of transatlantic mergers has been that they are generally one way. Where Europe is aggressively seeking US firms, such as BAe's purchase of Lockheed's Sanders, the US has been reluctant to merge with Europe at the prime level. Industry leaders explain that there are several variables that make Europe a poor choice. On the political level, Europe has consolidated to two major primes. It is highly unlikely that European governments would allow the US to control such an enormous piece of the European market.<sup>44</sup>

On the financial level, European consolidation has produced enormous debt, and the market is still highly segregated. If a European company buys in the US, they have access

to the entire market. If a US company buys an Italian firm, however, they only have access to the Italian market, not the whole of Europe. Although, this dynamic could change as the EU strengthens.<sup>45</sup> Additionally, labor practice in Europe, especially Germany and France, is much more constrictive than US companies would prefer.<sup>46</sup> In Germany, for instance, if an employee is laid off, the company must pay the individual two thirds of their salary for five years, with diminishing amounts due in succeeding years.<sup>47</sup>

US industry has found it is most effective in countries where there is no major defense industry to protect, such as Belgium, Norway, or Portugal.<sup>48</sup> Typically, they team with a European ally by selling a production license, thereby minimizing capital investment, and by having components produced in that country.<sup>49</sup>

There are, however, growing occurrences of prime contractors working together to fill defense needs: Lockheed teamed with EADS and Airbus, Northrop Grumman is collaborating with DASA and EADS; Boeing and BAe are working together; and Raytheon has aligned with Thomson.<sup>50</sup> Despite the growing transatlantic moves, however, they are not without their concerns.

A primary complaint by European industry is the restrictive security arrangements imposed by the US. If a US-based company is conducting sensitive work for the government, a proxy board may be set up. This board is comprised of US citizens who oversee the management of the company. The European parent has no directors on the board, no access to financial data, and no control in company activities.<sup>51</sup> If the parent adheres to the rules, and develops a good reputation with the US government, the proxy

board may be downgraded to a Special Security Arrangement (SSA). The SSA allows citizens of the parent company to join in managing the US holding.

Rolls Royce purchased US-owned Allison Engine in 1995, and a proxy board was established. Rolls Royce proved itself to be a good owner by saving US jobs and importing state-of-the-art technology, so in 2000, the proxy board was replaced by an SSA. “Rolls Royce’s experience suggests that in order to succeed in the US, European firms need to build businesses there and to employ Americans in senior positions.”<sup>52</sup>

While the multinational nature of European firms has challenged the traditional US method of working with individual countries, the DoD is generally supportive of mergers and partnerships. Secretary of Defense William Cohen stated, “I have determined that International Arms Cooperation is a key component of the Department of Defense Bridge to the 21<sup>st</sup> Century. In the evolving environment of coalition warfare, limited resources, and a global industrial and technology base, it is DoD policy that we utilize International Armaments Cooperation to the maximum extent feasible, consistent with sound business practice and the overall political, economic, technological, and national security goals of the United States.”<sup>53</sup>

Finally, the US is concerned about the formation of Fortress Europe and Fortress America, where each would develop its own arsenal and defense force. If the fortress walls grew, NATO's existence, as well as US influence in Europe, would be threatened. With a growing dependence on coalition operations, this was a devastating option for both sides. If, conversely, the fortresses could be joined, both would benefit from increased competition and combined resources.<sup>54</sup>

**CFIUS.** The Committee on Foreign Investment In the United States (CFIUS) is the main body to regulate the international merger process and protect US security, commerce, and foreign relation concerns. CFIUS came into being with the Exon-Florio act in 1988, because Congress was concerned that foreign ownership in time of war might jeopardize US security.<sup>55</sup>

The Exon-Florio legislation grants the President of the United States the authority to take appropriate action to suspend or prohibit foreign acquisitions, mergers, or takeovers of US businesses that threaten to impair national security. To exercise this authority, the President must find that (1) credible evidence exists that the foreign interest exercising control might take action that threatens national security and (2) provisions of law, other than the Exon-Florio legislation and the international Emergency Economic Powers Act, do not provide adequate authority to protect national security.<sup>56</sup> Before Exon-Florio, a merger could only be stopped if the president declared a national emergency, or regulators invoked antitrust, environmental, or securities laws.<sup>57</sup>

Since its inception, there have been 1258 defense-related foreign acquisitions reported, out of a total of 7,371 foreign acquisitions of US businesses. Out of those 1258, 17 have been investigated. Seven of those offers were withdrawn, and of the remainder, the president has blocked only one.<sup>58</sup> In that case, President Bush determined that the China National Aero-Technology Import-Export Corporation (CATIC), which had acquired interest in Seattle-based MAMCO, was in violation of export law. MAMCO was involved in the production of export-controlled aircraft parts, and CATIC was closely aligned to the Peoples Republic of China (PRC) Peoples Liberation Army (PLA).



The acquisition would give CATIC access to controlled technology and other companies in the US aerospace industry.<sup>59</sup>

The reason for so few investigations is fairly straightforward. Companies fear that an in-depth investigation could divulge errant business practices or provide competitors with close-hold information.<sup>60</sup> Before forwarding an acquisition package to CFIUS, companies typically ensure all parties within the government and industry agree to the proposed acquisition. If companies are inadequately prepared, as was the case with many of the 17 investigated, they run a high risk of complications. Additionally, if they see questions arising in the minds of the reviewers, a firm may withdraw their case and seek other opportunities or deal with the concerns before resubmitting.

Two further variables increase a firm's incentive to cooperate. First, the president's decision is non-reviewable, meaning it cannot be challenged in court. Second, even if the company decides to withdraw their package, CFIUS can deny them that privilege and continue the investigation.<sup>61</sup>

The committee is chaired by the Department of Treasury and it is comprised of 11 different agencies or offices.<sup>62</sup> The heavyweights in the process are the Departments of Defense, State, and Commerce.<sup>63</sup> Because of the broad range of perspectives of the participants, most agree that the review achieves a balance between economic, military, and political concerns.<sup>64</sup> CFIUS is not without its detractors though.

Dr. Gordon Adams, Director of Security Policy Studies Program at George Washington University, said CFUIS is a major deterrent to international mergers, because companies fear review. In the Thomson—Vought Aerospace proposed merger, concerns with French ownership of Thomson were a major stumbling block. Eventually Thomson

dropped the deal because they were afraid of the “CFIUS spotlight.”<sup>65</sup> The General Accounting Office also complained that the voluntary nature of CFIUS encourages companies to avoid the process altogether.<sup>66</sup>

In spite of its critics, the CFIUS process is one of the more streamlined operations in the federal government. Filings come in and are reviewed on the same day for completeness. The next day they are distributed to the 11 members. At the 30-day point, if members find no issues, a letter is sent to the companies stating there are no national security issues to warrant further review. If issues are present, members are required to notify each other by the 23rd day, at which time a meeting will be scheduled to discuss the problem. If an investigation is required, members have 45 days to further review the proposal and a package is prepared for the president’s review.<sup>67</sup> The president has 15 days to make a decision.<sup>68</sup>

## **Issues**

**The International Arms Dealer.** Arguably, the primary offender in the proliferation game is the United States. During the Cold War, the US exported approximately one third of the world’s arms. While defense budgets around the world have decreased, the US has dramatically improved its market share to between 55% and 60%.<sup>69</sup> From January 1, 2000 to June 30, 2000 the US sold \$2.37B worth of armaments to 14 countries, to include \$1.15B to Europe, \$643M to the Asia-Pacific region, and \$582M to the Middle East.<sup>70</sup> It is equally difficult to encourage others to adopt an export regime when you are the biggest proliferator.

According to a policy paper by the Atlantic Council of the United States, foreign governments buy arms from the US to compete economically and militarily with the US

in the future. The dearth of R&D spending in these countries is partially overcome by obtaining US technology and reproducing it—an activity many companies feel is detrimental for future business<sup>71</sup> Detractors further argue that by becoming the arms dealer for the world, the US is fueling the fires of conflict that could later threaten its vital interests or force humanitarian interventions. The evidence tends to agree.

In 1999, licenses were approved for 70 countries ranging from Algeria to Russia. \$24M was approved for manufacturing and technical assistance to the troubled country of Rwanda. \$1M went for spare parts and small arms to Zimbabwe, which is at war with the Democratic Republic of Congo. \$288M was approved for defense articles and \$280M for manufacturing exports to Algeria, who is in the middle of a civil war. And \$10M worth of assault rifles, pistols, small arms cartridges, and ammunition went to Turkey's oppressive government.<sup>72</sup>

Advocates of the defense industry argue that if the US won't sell the products, foreigners will. France, Israel, Russia, and China, to name a few, are already exporting advanced technologies to the highest bidder. Others suggest that if the US is the supplier of the world's arms, it will have an excellent understanding of the capabilities of each nation. Former Rear Admiral Rick Kirkland offered that he would rather fight an F-14, whose characteristics he knows by heart, than fly against a French Mirage, which may be a hybrid of various technologies.<sup>73</sup>

**Mergers and Acquisitions.** Vance Coffman, Chairman and Chief Executive Officer Lockheed Martin Corporation, described international mergers and acquisitions (M&As) where, “a maze of bureaucratic red tape, politically-influenced decisions by governments, or disagreements over technology often make the costs of partnership prohibitive,

sometimes even discouraging the attempt.”<sup>74</sup> The Defense Science Board’s task force on preserving the industrial base added that even after consolidations, there was still an enormous amount of overcapacity, which helped keep costs high, and that the DoD had done little to support cost reduction and rationalization of the facilities.<sup>75</sup>

**Fortresses.** “If we’re fighting together, we need to have industrial structures that are interoperable and achieve a natural tendency toward working together rather than the alternative model of a European consolidation and a U.S. consolidation wherein Europe has to buy from the European firms and the U.S. buys from the two or three US firms and then we compete in the third world. That’s not something inherently positive for the NATO environment,” stated Jacques Gansler.<sup>76</sup> Yet, the Fortress walls appear to be growing.

The US has penetrated much of the European arms markets to include: F/A-18 aircraft, Apache and Chinook helicopters, C-130 Hercules transport aircraft, Tomahawk cruise missiles, and Patriot and Stinger surface to air missiles, to name a few.<sup>77</sup> Unfortunately, the same cannot be said for European companies selling in the US. This “locking out” of the US market only inflames nationalist tendencies in Europe.

An example of fierce competition over the European market can be seen in Poland. Poland must upgrade or replace its aging fleet of MiG-23 fighter aircraft. The replacement program, priced at \$4B, is highly sought after by US and European prime contractors. Lockheed would like to sell the Polish government F-16C and D models, but because of limited resources, they are offering F-16A and B models for only the cost of depreciation over a five-year lease. Once Poland gains its financial footing, it will replace these with the more expensive C and D models. BAe countered that they would

lease Gripen fighters to Poland, and 100% of the costs would be balanced by production offsets in Poland. Additionally, they suggested a four to five year “trial period,” relieving the cash-strapped Poles of early-year payments.<sup>78</sup>

Poland is also buying 100 new helicopters with similar competition. The Polish defense minister has gone so far as to state that any company aiding Poland in privatizing its defense industry will have an advantage in getting the business. In response, Bell Helicopter has agreed to buy Poland’s PZL Swidnik helicopter company if Bell is chosen for the deal.<sup>79</sup>

If these sales were at the business-to-business level, they may not arouse much attention, but because they involve the defense industry and major outlays of public funds, governments are highly engaged. With the purchase of US equipment there is an implied agreement that the country is also buying US support in time of crisis and a powerful economic trading partner. Europeans stress that entry into the lucrative European Union requires that countries show their commitment by buying within the continent. In the end, both sides lose because bad feelings are generated and protectionist policies are encouraged.

**Keeping the edge.** The primary motive for the Department of Defense’s push for closer industrial integration with the Europeans is the growing capabilities gap. Desert Storm and the NATO air campaign over Yugoslavia were a clear indictment of the faltering abilities of the US allies. One State Department Official said, “Kosovo served as a warning call that the capabilities gap, if left unresolved, could threaten the future operational viability of the entire alliance.”<sup>80</sup>

In comparing the US to NATO an obvious divide has developed, and it is growing:<sup>81</sup>

1. Out of 35 defense satellites, only two were European. Overall, the EU has 5, and the US has 65, so the US provided most of the intelligence
2. Europeans could not communicate easily or securely with each other or the US, so 90% of communications equipment was US
3. There is no European inventory of precision weapons except for UK tomahawks
4. There is little capability for all-weather or night fighter operations (small French exception)
5. 80% of the strike missions were flown by US fighters
6. The Europeans relied on US support aircraft for their sorties, especially in the areas of battle control, refueling, jamming, and radar attacks
7. The Europeans have only 2 roll-on roll off ships, compared to 12 for the US
8. There is no fast sealift capability in Europe, the US has 8 ships
9. Europe has no large airlift capability, compared to the US's 254

Others, such as Colonel Lew Thompson, Deputy Chief of Staff for Intelligence for Army Materiel Command, worries that gap is growing larger, and with the advent of the Army's digital divisions and corps, the Europeans will be completely isolated on the battlefield.<sup>82</sup>

Despite European promises, their budgets continue to hold at low levels, while the US is seeing increases. The R&D spending in Europe is \$9.7B, compared to the US allotment of \$35.9B.<sup>83</sup> Critics argue there is little wonder why US defense purchases in Europe are small, when European industry is plagued with a dearth of spending to develop new and improved systems. Dr. Adams predicts that without spending increases, Europe will become more dependent on the US, while the US may begin to consider European coalitions as more of a detriment than a compliment.<sup>84</sup>

### Notes

<sup>1</sup> Defense Science Board, *Task Force on Globalization and Security*. Final report (Washington D.C.: Office of the Under Secretary of Defense for Acquisition and Technology, December 99), iv.

<sup>2</sup> Ibid., i.

<sup>3</sup> Ibid., 1.

<sup>4</sup> Markusen, *Arming the Future: A Defense Industry for the 21st Century* (New York, N.Y: The Council on Foreign Relations Press, 1999), 12.

## Notes

<sup>5</sup> Defense Science Board, *Task Force on Globalization and Security*, 23.

<sup>6</sup> Ibid., i-ii.

<sup>7</sup> Defense Restructuring and the Future of the U.S. Defense Industrial Base, 15.

<sup>8</sup> Vance Coffman, "The Defense Industry Today: Implications for Transatlantic Cooperation" Remarks by the Chairman and Chief Executive Officer Lockheed Martin Corporation before the Atlantic Council of the United States and The Centre for European Reform, Washington, D.C., 4 May 2000, 22.

<sup>9</sup> Defense Science Board, *Task Force on Globalization and Security*, iii.

<sup>10</sup> Defense Science Board, *Preserving a Healthy and Competitive U.S. Defense Industry to Ensure our Future National Security*, Final Briefing (Washington D.C.: November 2000), 7.

<sup>11</sup> Jacques S. Ganlser, "Arming the Future: A Defense Industry for the 21st Century," address, Aerospace Finance Conference, New York, N.Y., *Aviation Weekly*, n.p.; on line. Internet, 14 September 2000, available from <http://www.acq.osd.mil/ousda/speech/aviationweekly.htm>, 2-3.

<sup>12</sup> "Russia, Iran Renew Alliance Meant to Boost Arms Trade," *Washington Post*, 13 March 2001, A14.

<sup>13</sup> Gen Charles Vyvyan, Consultant, interviewed by author, 23 February 2001.

<sup>14</sup> *PRC Acquisition of U.S. Technology*, report (Washington D.C.) n.p.; on line. Internet, 25 May 2000, Available from <http://www.washtimes.com/investiga/cox/01Acquisition.html>, 12.

<sup>15</sup> "Pakistan To Sign Big Arms Export Deals With Several Countries," *Islamabad The News in English in FBIS International Press Highlights*, 12 February 2001, 13.

<sup>16</sup> Defense Science Board, *Task Force on Globalization and Security*, 23.

<sup>17</sup> Markusen, 36.

<sup>18</sup> Defense Science Board, *Task Force on Globalization and Security*, 25.

<sup>19</sup> Ibid., 12.

<sup>20</sup> *Defense Restructuring and the Future of the U.S. Defense Industrial Base*, 13.

<sup>21</sup> Ibid.

<sup>22</sup> Markusen, 13.

<sup>23</sup> Robert Pitofsky, Prepared Statement by the Chairman of the Federal Trade Commission Before The Armed Services Committee Subcommittee on Acquisition and Technology, United States Senate, Washington D.C., 15 April 1997, 2.

<sup>24</sup> Vago Muradian, "U.S.-Europe Deals Unlikely Until DoD Crafts Merger Stance," *Defense Daily*, n.p.; on line. Internet, 21 September 2000, available from [http://www.dean.usma.edu/socs/ECON/ens/news/9Dec\\_Mergers%20&%20Defense%20Panels.htm](http://www.dean.usma.edu/socs/ECON/ens/news/9Dec_Mergers%20&%20Defense%20Panels.htm), 1.

<sup>25</sup> Dennis Bovin, "The Consolidation of the Defense Industry," address, Defense Science Board, Washington DC, 7 February 2000, 14.

<sup>26</sup> Harvey M. Sapolsky and Eugene Gholz, "Private Arsenals: America's Post-Cold War Burden," in *Arming the Future: A Defense Industry for the 21st Century*, ed. Ann R. Markusen and Sean S. Costigan (New York, N.Y.: The Council on Foreign Relations Press, 1999), 193.

<sup>27</sup> Bovin, 6.

## Notes

<sup>28</sup> *Defense Restructuring and the Future of the U.S. Defense Industrial Base*, 3.

<sup>29</sup> Michael Oden, "Cashing In, Cashing Out, and Converting: Restructuring of the Defense Industrial Base in the 1990s," in *Arming the Future: A Defense Industry for the 21st Century*, ed. Ann R. Markusen and Sean S. Costigan (New York, N.Y.: The Council on Foreign Relations Press, 1999), 81.

<sup>30</sup> Michael Brzoska, Peter Wilke, and Herbert Wulf, "The Changing Civil-Military Production Mix in Western Europe's Defense Industry," in *Arming the Future: A Defense Industry for the 21st Century*, ed. Ann R. Markusen and Sean S. Costigan (New York, N.Y.: The Council on Foreign Relations Press, 1999), 381.

<sup>31</sup> Gordon Adams, "The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities," Final draft paper (Washington D.C.: Institute for Security Studies, Western European Union Chaillot Paper, Fall 2000), 6.

<sup>32</sup> Richard A. Bitzinger, "Globalization in the Post-Cold War Defense Industry: Challenges and Opportunities," in *Arming the Future: A Defense Industry for the 21st Century*, ed. Ann R. Markusen and Sean S. Costigan (New York, N.Y.: The Council on Foreign Relations Press, 1999), 323.

<sup>33</sup> Dov S. Zakheim and Sharon Weinberger, *Toward A Fortress Europe?* Paper (Washington D.C.: Center for Strategic and International Studies, November 2000), 12.

<sup>34</sup> "Cohen: British Aerospace-GEC Merger may Limit Competition," *Defense Week*, n.p.; on line. Internet, 21 September 2000, available from [http://www.dean.usma.edu/socs/ECON/ens/news/1Mar\\_Bae\\_GEC.htm](http://www.dean.usma.edu/socs/ECON/ens/news/1Mar_Bae_GEC.htm), 1.

<sup>35</sup> Alex Ashbourne, *Opening the US Defense Market*, paper (London, U.K.: Centre for European Reform), n.p.; on line. Internet, 17 November 2000, available from [www.cer.org.uk](http://www.cer.org.uk). 3.

<sup>36</sup> John J. Hamre, "U.S.-Japan Defense Industry Cooperation in an Era of Globalization," address, Keidanren Defense Production Committee, Tokyo, Japan, 26 November 1999, in *Defense Link*, n.p.; on line. Internet, 21 September 2000, available from <http://www.defenselink.mil/speeches/1999/s19991126-depsecdef.html>, 1.

<sup>37</sup> "Hamre Calls On Europeans to Put A Hold On Defense Industry Mergers," *Inside The Army*, n.p.; on line. Internet, 21 September 2000, available from [http://www.dean.usma.edu/socs/ECON/ens/news/2Feb\\_Hamre\\_Bae.htm](http://www.dean.usma.edu/socs/ECON/ens/news/2Feb_Hamre_Bae.htm), 1.

<sup>38</sup> "Cohen: British Aerospace-GEC Merger may Limit Competition," 1.

<sup>39</sup> Jeffrey P. Bialos, "Re-inventing Defense Export Controls: A National Security Imperative," address, Practising Law Institute, Washington D.C., 7 December 2000.

<sup>40</sup> Brzoska, 283.

<sup>41</sup> Richard G. Kirkland, Lockheed Martin Corporation, interviewed by author, 10 January 2001.

<sup>42</sup> Bovin, 5.

<sup>43</sup> Ashbourne, *Opening the US Defense Market*, 5.

<sup>44</sup> Joel L. Johnson, Aerospace Industries Association of America, interviewed by author, 27 November 2000.

<sup>45</sup> Ibid.

<sup>46</sup> General Accounting Office, *Foreign Investment: Foreign Laws and Policies Addressing National Security Concerns*, Report GAO/NSIAD-96-61, April 1996, 11.



## Notes

<sup>47</sup> Dr. Alexandra Ashbourne, Ashbourne Beaver Associates, interviewed by author, 22 February 2001.

<sup>48</sup> Jeffrey P. Bialos, Deputy Secretary of Defense (Industrial Affairs), interviewed by author, December 2000.

<sup>49</sup> Defense Science Board, *Task Force on Globalization and Security*, 12.

<sup>50</sup> Adams, "The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities," 12.

<sup>51</sup> Ibid., 18.

<sup>52</sup> Ashbourne, *Opening the US Defense Market*, 5.

<sup>53</sup> *Third Party Arms Transfers: Requirements for the 21<sup>st</sup> Century*, paper (Washington D.C.: The Atlantic Council of the United States, September 1998), 5.

<sup>54</sup> Hamre, 2-3.

<sup>55</sup> General Accounting Office, *Foreign Investment: Implementation of Exon-Florio and Related Amendments*, Report GAO/NSIAD-96-12, December 1995, 2.

<sup>56</sup> GAO, *Foreign Investment: Foreign Laws and Policies Addressing National Security Concerns*, 6.

<sup>57</sup> General Accounting Office, *Defense Trade: Identifying foreign Acquisitions Affecting National Security Can Be Improved*, Report GAO/NSIAD-00-144, June 2000, 6.

<sup>58</sup> Ibid., 7.

<sup>59</sup> *PRC Acquisition of U.S. Technology*, 22.

<sup>60</sup> The CFIUS process is completely confidential.

<sup>61</sup> Gay H. Sills, Office of International Investment, Department of Treasury, interviewed by author, 26 October 2000.

<sup>62</sup> GAO, *Foreign Investment: Implementation of Exon-Florio and Related Amendments*, 3.

<sup>63</sup> Sills.

<sup>64</sup> Ibid.

<sup>65</sup> Gordon Adams, George Washington University, interviewed by author, 16 October 2000, and Adams, "The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities," 17.

<sup>66</sup> GAO, *Defense Trade: Identifying foreign Acquisitions Affecting National Security Can Be Improved*, 11.

<sup>67</sup> Sills.

<sup>68</sup> GAO, *Defense Trade: Identifying foreign Acquisitions Affecting National Security Can Be Improved*, 6.

<sup>69</sup> Defense Science Board, *Task Force on Globalization and Security*, 9.

<sup>70</sup> "Proposed U.S. Arms Export Agreements From January 1, 2000 to June 30, 2000," *Arms Control Association Website*, n.p.; on line. Internet, 28 February 2001, available from <http://www.armscontrol.org/FACTS/hoofms.html>, 1.

<sup>71</sup> *Third Party Arms Transfers: Requirements for the 21<sup>st</sup> Century*, 2.

<sup>72</sup> *Fiscal Year 1999 655 Report: Analysis of the State Department's Report on Direct Commercial Sales Licenses*, report (Washington D.C.: Federation of American Scientists

## Notes

Website), n.p.; on line. Internet, 19 January 2001, available from <http://www.fas.org/asmp/profiles/655-99/dcs/655analysisfy99.htm>, 1.

<sup>73</sup> Kirkland.

<sup>74</sup> Coffman, 7.

<sup>75</sup> Defense Science Board, *Preserving a Healthy and Competitive U.S. Defense Industry to Ensure our Future National Security*, 22-26.

<sup>76</sup> Frank Wolfe, "Gansler: Pentagon Open to Foreign Linkages," *Defense Daily*, n.p.; on line. Internet, 21 September 2000, available from [http://www.dean.usma.edu/socs/ECON/ens/news/8Jul99\\_Gansler\\_Consolidation.htm](http://www.dean.usma.edu/socs/ECON/ens/news/8Jul99_Gansler_Consolidation.htm), 1.

<sup>77</sup> Ashbourne, *Opening the US Defense Market*, 5.

<sup>78</sup> "Sweden Offers Poland Gripen Planes on Conditions Similar to U.S. F-16 proposal," *Warsaw Rzeczpospolita*, n.p.; on line. Internet, 22 March 2001, available from <http://www.shape.nato.int/shapenews/2000/november/sa071100.htm>

<sup>79</sup> Neil Baumgardner, "Poland To Compete Lease Offers As Part of Long-Term Fighter Acquisition," *Defense Daily*, 13 November 2000.

<sup>80</sup> "US to Announce Sweeping Changes to Arms Export Restrictions," *Agence France Presse*, n.p.; on line. Internet, 26 September 2000, available from [http://www.geocities.com/cpa\\_blacktown/20000523exporafpfr.htm](http://www.geocities.com/cpa_blacktown/20000523exporafpfr.htm), 1-2.

<sup>81</sup> "A Common European Military Policy, International Institute for Strategic Studies, Strategic Comments, Vol. 5, No. 6 (July 1999), p.2; J.A.C. Lewis, "Building a European Force," *Jane's Defense Weekly*, 23 June 1999, p.22; Carla Anne Robbins, "Display of U.S. Might Makes Allies, Adversaries Doubt Their Relevance," *Wall Street Journal*, July 6, 1000, p.1; James Thomas, *Adelphi Paper* 333. in Gordon Adams, "The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities," Final draft paper (Washington D.C.: Institute for Security Studies, Western European Union Chaillot Paper, Fall 2000, 4.

<sup>82</sup> Col. Lew Thompson, Deputy Chief of Staff for Intelligence, Army Materiel Command, interviewed by author, 6 December 2000.

<sup>83</sup> Adams, "The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities," 7.

<sup>84</sup> *Ibid.*, 6.

## **Chapter 4**

### **The Arguments**

In a 1998 survey of leading defense companies, export controls topped their list of the major obstacles to international business.<sup>1</sup> As previously stated, US defense trade policy evolved, not as a punishment for industry, but as a protection for national security. Achieving the optimum balance between economic, military, and political concerns is a never-ending battle, and in this time of accelerated globalization, that balance is even harder to achieve. This chapter looks at the current legislation governing export controls, reviews the major players involved and their motives, and then explores the arguments which define the export control controversy.

### **Legislation**

The Department of State's Office of Defense Trade Controls is the owner of the export licensing process in accordance with sections 38-40 of the Arms Export Control Act (AECA) (22USC 2778-80) and the International Traffic in Arms Regulations (ITAR)(22 CFR Parts 120-130).<sup>2</sup> DTC has authority over "design development, production, manufacture, assembly, operation, repair, testing, maintenance or modification" of defense articles and services.<sup>3</sup> The legislation is a product of the Cold War, having had only minor revisions since the collapse of the Soviet Union. Many of the procedures date back to the 1970s, when Congress was attempting to regain oversight

of foreign policy decisions from the executive branch.<sup>4</sup> Although the AECA of 1979 expired in 1994, its procedures have been sustained through the International Emergency Economic Powers Act.<sup>5</sup> Most experts agree that the AECA is fairly broad and flexible, allowing DTC some leeway in defining its implementation.<sup>6</sup>

The second major law affecting US defense trade policy is the Security Assistance Act of 2000. The Act covers a number of areas to include a more stringent accounting of exports, approving the sale of ships, and reaffirming previous nonproliferation commitments. More importantly, it sets into law the requirement that all countries desiring the benefits of the Defense Trade Security Initiative, which will be described later, must sign a binding agreement to revise their export laws to conform to those of the US. They will also be subject to US third party transfer requirements, and they will permit the US to verify the location and end user of any US technology transferred to third parties.<sup>7</sup>

Several Acts are circumvented due to the security and political nature of defense trade. The Culver-Nunn Amendment largely bypasses the “Buy American Act” by allowing the Secretary of Defense to waive it when it serves the public interest.<sup>8</sup> And Subchapter M of the ITAR removes another barrier, “because the exercising of the foreign affairs function, including the decisions required to implement the Arms Export Control Act, is highly discretionary, it is excluded from review under the Administrative Procedure Act.”<sup>9</sup>

Other pieces of legislation and standards also have implications for export controls, such as The Truth in Negotiations Act, The Competition in Contracting Act, The False Claims Act, The Defense Production Act, cost accounting standards, the material

management and accounting system, and the military specification and military standards system.<sup>10</sup> As stated in the Limitations Section, this paper will not attempt to unravel the intricacies of each law or standard, rather it looks at overall failings of the defense trade system and leaves the writing of laws and procedures to the experts.

## **Players and Agendas**

**Department of Defense.** The first of the two powerbrokers in the export process is the Department of Defense. In previous decades, the DoD has been the conservative voice in controlling the flow of arms. As described earlier, that attitude has changed to one that encourages the development of a North Atlantic industrial base, with the addition of Australia and Japan. Their primary motives are to reverse the technology gap, improve coalition interoperability, leverage research and development funds, and gain access to European technology.

**Department of State.** The other powerbroker is the Department of State. The DTC reviews over 45,000 export license applications a year, and it forwards 12,000 to the DoD.<sup>11</sup> DTC views export controls as a system based on strict law and is therefore difficult to change without a change in the law.<sup>12</sup> DoS is frequently criticized for its antiquated system and slow response time, however, they are the regulating body that must answer to Congress for any indiscretions.<sup>13</sup> Whereas the DoD approaches exports with national security as the primary objective, DoS considers exports a tool of foreign policy, by using the sales of technology as a reward or punishment. In a role reversal, it was DoS in the 1970s and 1980s that wanted to push technology on allies and thereby lock them together. The DoD, conversely, moved to limit sales.<sup>14</sup>

**Department of Commerce.** A third player is the Department of Commerce (DoC), whose agenda is to promote trade and economic development. They oversee the CCL, which covers defense related technologies that are not on the munitions list, such as dual-use items. DoC takes a much more liberal approach, by pushing for a process that has “higher walls around fewer items.”<sup>15</sup>

**Congress.** Congress sets the rules for export and merger controls, and they play a large role behind the scenes in reviewing major transactions. Although they have never taken official action to prevent a license, the mere presence of a report going to Congress deters many companies from pursuing licenses.<sup>16</sup> Their advocacy is as diverse as their membership; some want a return to Cold War-like controls, others want more far reaching liberalization, but the majority appears to be somewhere in the middle.

**Industry.** Industry, the creator of the sometimes-objectionable exports, also adds to the debate. They feel that the government has not caught up with the current strategic environment of more fluid and unpredictable geo-political changes. Technology proliferation is less controllable, information technology is spreading, M&As are making industry more competitive, and flat R&D budgets are forcing companies to look abroad.<sup>17</sup> From the European perspective, current export laws severely limit the opportunity for mergers, partnerships, and sales.

**Foreign Government.** The final major force affecting defense trade policy is foreign government. Each government has its set of domestic and international concerns and constituents, as well as varying laws and regulations. They fear continued protectionism on both sides of the Atlantic could isolate the economic market and weaken the common defense.<sup>18</sup>

Three critical events recently occurred that are reshaping the European defense industry. First, in December of 1998, British Prime Minister Tony Blair and French President Jacques Chirac agreed on the need for an independent European rapid reaction force. This was the first time the UK and France had proposed to go outside of the NATO framework. Second, Kosovo air operations highlighted the significant gap in European and US capabilities. Third, a Letter of Intent (LOI) was signed by France, Germany, Italy, Spain, Sweden, and the UK in 1998, which covers defense mergers and cooperation. It includes security of supply exports, R&D, security of information, harmonization of military requirements, and intellectual property.<sup>19</sup>

**Other Departments and Agencies.** There are a number of departments and agencies that have a stake in export policy, such as the Department of Treasury, the Department of Justice, the Department of Energy, and the Federal Trade Commission. While they play an important role, the organizations and groups discussed previously shoulder the predominance of the burden to create or shape defense trade policy.

The next section we will review in more detail the opposing views of the export debate. Naturally, there are no clear dividing lines, but they will be presented in categories of economic, military, and political dimensions. The dimensions are further broken down into the positions of those advocating liberalization and those desiring a reigning in or status quo, which falls under the rubric of nonproliferation.

## **The Economic Dimension**

### **Liberalization**

The liberalists believe overhauling the antiquated system of exports controls is long overdue, and Congress must allow free enterprise to operate. Rick Kirkland, Vice President of Lockheed Martin's International Programs, described the Cold War world as one in which the US owned most of the technology and beat the opponent with capability over mass. With US national security at risk, it was easy to justify pushing technology on NATO. The times have changed, he argues, and the imperative for NATO to follow the US lead is gone. In going their own way, the allies have cut budgets, reduced forces, and they are steadily falling behind.<sup>20</sup> Without the "aid" of a superpower enemy, economics have replaced security as the top public concern, and the US's heavy-handed tactics are obstructing progress.

Dr. Alex Ashbourne, at the Center for European Reform, cautions that if the US continues to pursue its export barriers, foreign defense suppliers may be hesitant to work with the US, and the DoD will suffer from reduced competition. Without cooperation, Fortresses will develop, allies will fall farther behind in interoperability, and coalitions will falter on the battlefield. On the other hand, if US firms were to work with their European counterparts, they may help Europe in reshaping its acquisition system. She concludes that while the biggest threat to the transatlantic security is proliferation to rogue nations, it does not outweigh the benefits derived from cooperation—economically, militarily, and politically.<sup>21</sup>

**Overhaul Export Licensing.** DoS reviewed 45,000 licenses in 1998, and approved 70% in 30 days, without DoD review. The 30% forwarded to the DoD required an



average of 81 days for approval, due in part to the more complex nature of the requests. In 1999, the average time for a DoS and DoD review was approximately 98 days with less than 2% of the applications rejected.<sup>22</sup> As a comparison, the UK takes 20 days to review an export application involving the Ministry of Defense and the Ministry of Trade and Industry. If the application is reviewed by only the Ministry of Trade and Industry, it requires an average of 10 days for approval.<sup>23</sup>

A 1998 study of the DoD process highlighted, “At the height of the Kosovo operation, for instance, the State Department took two months to approve a license to sell 35 flares to the Italian Coast Guard, despite the fact that these flares have already been approved for sale to 30 countries and would be used for illumination in the possible rescue of NATO pilots.”<sup>24</sup> The Defense Science Board summarized that the ITAR process obstructs the flow of products to allies and undermines cooperation.<sup>25</sup>

Michael Dickson, at the Office of Defense Trade Controls, objects to the DoS criticism, stating that they are performing the duties required by law. He does admit, however, that the law does have a degree of flexibility.<sup>26</sup>

**Reconstruct the USML.** The first priority by export control critics is to reduce the number of components on the USML. Many of the items are commercially available over the internet or from a foreign supplier. An example is the controls on supercomputers. The US controls their export to prevent potential competitors from acquiring advanced processing capabilities, but technology now allows personal computers to be clustered to perform at a similar level. The US advantage in the global market is the quality and the ability to mass-produce, but if the US is prevented from entering a market, other countries will develop similar capabilities.<sup>27</sup>

Rolls Royce went to Dupont to produce components for the JSF engine. Rolls was providing the advanced technology and design—an excellent opportunity for the US to import information—but after two months and no license, Rolls went to Japan to handle their production needs.<sup>28</sup> Jim Durso, of the National Security News Service, stressed that the export control regime is focused on a special list, which ignores the real issue that hoarding commercially available technology has never been a successful strategy. “We need to run faster than the other guy.” Additionally, the internationalism of industry and its employees make it even more difficult to control technology.<sup>29</sup>

Joel Johnson, Vice President, International, Aerospace Industries Association of America, described the list as too broad and encompassing, “We need to narrow the focus by removing unclassified military technology.” The list should address process technologies, some hardware, and integration capability. Adversaries may be able to see what certain coating and composites are made of, but they lack the capability to reverse engineer them. The real issue for the future of America’s defense industry, Johnson described, is the ability to integrate technology in unusual ways.<sup>30</sup>

Most outsiders further believe that although the DoD wants to change the USML, the DoS is resisting. Steve Brosnan, a political military officer in the State Department’s Office of Plans, Policy and Analysis, suggested that the critics must understand that the DoD is responsible for national security and must look for releasability threats. The State Department’s charter requires it to look for foreign policy implications. “Even if it is low tech, giving it to the wrong African country could lead to an escalation in violence.”<sup>31</sup> Jim Durso agreed that although the list could be reduced, “Selling weapons is dangerous

business. The government needs to realize what truly constitutes the essence of a weapon.”<sup>32</sup>

Marshall Billingslea, a senior professional staffer on the Senate Foreign Relations Committee added that there has been no rationalization of the export control process since the end of the Cold War. He cautioned, however, “Eliminating licensing undermines the ability to enforce export controls by removing the paper trail. We want a violator to have to falsify documents.” He concluded, “The DoD is shortsighted; they think the list only controls integrated, top-notch technology. DoD fails to understand that the next opponent will use their integration ability with common technology. That’s why it needs to be controlled.”<sup>33</sup>

Judith Reppy, in *Arming the Future*, also disagreed with merely focusing on reducing the USML. She feels that the US cannot rely on commercial technology, because the enemy has the same access. The US also cannot rely on integration capability, because although it is difficult to develop, the enemy can do it as well. Instead of focusing on commercial integration, she argues, money should be spent on emphasizing military-unique technologies.

In a related perspective, former Assistant Undersecretary for Export Controls, Martha Harris, suggested that DoD must lead a top down rework of the list. Working in close cooperation with DoS, DoD has the expertise and manpower to assess how various technologies and processes are affecting US security and national military strategy.<sup>34</sup> Interestingly, most of the interviewees agreed that this was long overdue, but few thought the DoD had the energy or determination to undertake the task.

Michael Dickson was one of the few dissenters. Although he felt that DoD could lead in overhauling the list, he judged that the USML would change very little from its present form. He cautioned that while the USSR is gone, there are many new players to worry about. Additionally, the breakup of countries has created smaller countries that want to buy equipment. “How do you deny them the right to develop a defensive capability?”<sup>35</sup>

**DTC Manning.** A number of writings and interviewees feel that the primary problem with the licensing process, other than the size of the munitions list, is the personnel in the Office of Defense Trade Controls. William Reinch is an outspoken critic of the office, “Selling an F-16 is political decision, and the DoS system is good for this, because the people are skilled in these decisions, however, this is a different skill set than selling computers or satellites. Systematically, DoS fails, because they don’t deal well with the public. Historically, selling weapon systems has not required these skills, and management is uninterested in changing to the new environment”<sup>36</sup> Jeffrey Bialos, Deputy Under Secretary of Defense (Industrial Affairs) concurred that DTC “needs reinventing...with some new personnel.”<sup>37</sup>

Though believing that the munitions list is antiquated and in need of revision, Edward Levine, a senior professional staffer on the Senate Foreign Relations Committee, points out other factors that are slowing the process. DoC has 100 people to review 12,000 licenses a year. DTC reviews 45,000 applications with 12 licensing officers (increasing to 25 shortly). In addition, the DTC people are on a lower government-civilian rank structure, so experienced workers are quickly lost to the DoD, DoC, or

industry. He concludes, however, that “DoS does not support DTC well, and they don’t care that they’re slow, because its arms control.”<sup>38</sup>

Finally, Michael Dickson agrees that the paucity of money and personnel makes the DTC process inherently more time consuming than counterparts in the DoC or DoD. DTC has 48 people doing a variety of activities from clerical to actual licensing officers. In 1999, they received authority from Congress to hire 23 additional personnel and raise some grade levels. Still, DTC is vastly undermanned when compared to DoC and DoD licensing groups, and 60% of DTC’s licensing officers have less than two years experience, which slows the process further.

**Congressional Timelines.** The fourth and final area for improvement is the requirement to report to Congress on defense exports. Congress must be notified of all “major defense equipment” sales totaling over \$14M or defense articles and services not defined as “major defense equipment” over \$50M.<sup>39</sup> A seemingly innocuous task, before a license can be approved, Congress has 15 days to disapprove the sale of defense equipment to NATO, Australia, Japan, and New Zealand, or 30 days for non-NATO countries.<sup>40</sup> “Congress’s role in approving or vetoing defense export is certainly one of the biggest obstacles to transatlantic defense industry co-operation, as far as European industrialists are concerned,” described Alex Ashbourne. Surprisingly, the twist is not necessarily congressional scrutiny, but congressional attendance.

David Quinn, Deputy Director of Arms Transfers, in the DoS’s Office of Regional Security and Arms Transfers, describes the issue: “They [Congress] have to approve each major license, but they’re only in session half of the year. Early October was the last allowable time to notify them, and they probably won’t be back in session to review the

report until the first or second week of February.” Additionally, informal criteria requires DTC to forward licenses to the staff 20 days before they can start the 15 day clock.<sup>41</sup> As a matter of record, Congress was in session for 78 days in 2000.<sup>42</sup>

William Reinch, a former professional staffer for 20 years, agrees that Congress is not holding to its own timeline, and the DoS is not sending notification packages to Congress if a staff member tells them to stop. “DoS is in a tough position, and they won’t force the issue.”<sup>43</sup>

Finally, outsiders complain about the influence of one or two staffers. “There is an incestuous relationship between DTC and a select few on the hill,” said Jeff Bialos. William Reinch adds, “The DoS is afraid of one staffer, but the person often can’t deliver the member...it’s all bluff. Congress has gotten lazy by allowing their staff to do all the work. Where are the other staffers, the committee, the Democrats and the Republicans who don’t agree?”<sup>44</sup> Edward Levine softened the criticism, “DTC is not controlled by congressional staffers, but they are in league together. Will Lowell [Director of DTC] leads the effort, but I’m much happier looking at rubber stamp deals, rather than handling nasty decisions.”<sup>45</sup>

**Worldwide Availability of Technology.** In rationalizing the loosening of licensing restrictions, liberalists argue that if the US withholds technology, other countries will be there to step in. “The Arms Export Control Act is the single biggest impediment to globalizing the arms market,” stated Richard Bitzinger, a senior fellow at the Atlantic Council.<sup>46</sup> For example, Russia is selling an airborne radar system to China, after the US stopped Israel from selling a modified US version. While the Russian model is technologically inferior to the US aircraft, it still provides China with an excellent

compliment to their SU-27 and SU-30 aircraft, which were also purchased from Russia. Additionally, the radar aircraft is superior to the US-made E-2 Hawkeye, which the Taiwanese fly.<sup>47</sup>

Pakistan is also moving aggressively ahead to stimulate its economy by pursuing a variety of defense sales. The Pakistani industry, with 14 factories and 35,000 workers, reportedly sold up to \$200M last year in armaments, and the number is steadily growing. Malaysia is the latest customer, by agreeing to pay \$21M for missiles and other weapons. With French assistance, Pakistan can now build and sell the Agosta 90B submarine, and the Chinese have provided Pakistanis with the capability to produce the K-8 jet fighter trainer, which they intend to export to the world.<sup>48</sup>

General Charles Vyvyan, formerly an officer in the British Army, agrees that, “technology transfer is no longer a security issue for most technologies, because they are readily available through a variety of sources. Attempting to control them will be a lesson in futility. The issue has shifted from the Cold War model of technological superiority to a civil service model of protecting turf.”<sup>49</sup>

## **Nonproliferation**

Economics is not the major concern of the nonproliferationist, and therefore their main argument will be presented in the military section that follows later. There are still three substantial areas of concerns that will be discussed. First, liberalizing export controls will result in job and market share losses. Second, since the US provides a majority of the R&D funds, it is subsidizing foreign governments. Third, there is a concern that the security precautions put in place to stop technology and information transfer in mergers are not sufficient.

**Loss of Jobs and Market Share.** Gordon Adams describes Europe as steadily building Fortress walls by subtly protecting its industry at the expense of the US. The UK rejection of the Raytheon missile, over a yet undeveloped European version, is just one example of blaming US export controls to justify protectionism. The UK also decided to lease, rather than buy four C-17s, so they can purchase the European airlifter when it is in production. It is clear to US industry that unless they are able to team with or buy European firms, they will quickly be shut out of the market.<sup>50</sup> Conversely, as the US sells products and transfers technology, foreign industry benefits and becomes capable of producing a competitive product indigenously. Indigenous production means competition and job loss in stateside plants.

Offsets are a primary method of obtaining US manufacturing and technical knowledge. Countries regularly seek direct or indirect offsets to justify the expenditures to their constituents. A direct offset is one in which the indigenous company teams with a US contractor to supply or co-produce items. An indirect offset requires the prime contractor to find buyers for the country's products, which are not related to the military sale. Industry prefers indirect offsets, because there are no issues in working with foreign firms or transferring technology.<sup>51</sup> A recent study on China concluded that continuing technology transfer, through programs such as offsets, could have an adverse impact on national security over the long-term.<sup>52</sup>

Additionally, the government bears much of the burden for US industry in marketing arms and supporting offsets. David Gold states, "The out-of-pocket costs borne by the government in connection with arms sales amounts to half the value of sales and two-thirds of the value of new orders...the government absorbs substantial costs in carrying



on the arms trade while the economic benefits appear to be largely captured by the arms exporters and the governments who are the buyers.”<sup>53</sup> However, he concludes, that although there is risk in creating new competitors, there is little evidence to demonstrate that the transfer of technology has produced them.<sup>54</sup> Menzi Chin, a senior economist with the White House Economic Advisors, adds that when a foreign company is buying a US firm there is an additional gain realized from the foreign direct investment (FDI). FDI brings additional capital and ideas that further stimulate US economic growth.<sup>55</sup>

**Subsidizing Foreign Research and Development.** In a related area, by selling high tech defense articles overseas, or allowing US companies to be purchased, nonproliferationist believe the US is providing a conduit for that country to by-pass extensive R&D investment. The United States government spends approximately 50% of the world’s defense-related R&D money. Liberalization of exports and mergers provides easier access to the latest developments, allowing countries to upgrade their own capabilities.<sup>56</sup> For instance, most industry leaders agree that the cost of doing business with China must involve some portion of technology transfer. While they do not think the transfer is too high a price, few are seeing a profit or even paying off their initial investment. Furthermore, even when firms are allowed to break into the market, Chinese law is highly discriminatory against foreign firms.<sup>57</sup>

Originators of the Arms Export Control Act required the US government to charge recoupment fees on all Foreign Military Sales (FMS) to compensate for sunk R&D costs. The fees ranged from a few percent to 25%. President Bush began waving the fees for private industry sales, and President Clinton waived them for all government-to-government sales as well. One of the first cases was when the US sold 100 Advanced

Medium Range Air-to-Air-Missiles (AMRAAM) to Sweden. The reduced fees were used to make the AMRAAM more competitive with French Mica missile.<sup>58</sup>

**Controls and Mergers and Partnerships.** The final complaint by the nonproliferation advocates is a lack of confidence in the ability of proxy boards and SSAs to stop the flow of information and technology, for the simple reason that there is little regulators can do to check compliance.<sup>59</sup> BAe recently bought Lockheed's Sanders Division, which does classified work for the government. Skeptics ask how will enforcement agencies verify that when a Sanders employee moves to another part of the company, he does not share what he has learned with his new associates? When faced with layoffs, promotions, bonuses, or moves, will that employee stick to a strict code of silence? Doubters say that most will, but it only takes one to step out of line.

On the positive note, experience has shown that firewalls within companies have proven to be effective. In fact, foreign companies have a better record of adherence than their US counterparts. Dr. Keith Hayward, Head of Economic and Political Affairs for the Society of British Aerospace Companies, suggested that even if technologies flow to a foreign company, the legal restrictions between the US prime and its European subcontractor are so strict the subcontractor can only use that technology when working with the prime on future projects.<sup>60</sup>

## **The Military Dimension**

### **Liberalization**

James Bodner, Principal Deputy Under Secretary of Defense for Policy, stated the DoD believes the export control system is critical to national security issues. It keeps

technology away from enemies, it provides technology to allies, and it supports a healthy industry.<sup>61</sup> The current export regime is not made for proliferation networks, nor does it recognize the increased need for international markets for US defense industries to maintain their critical edge.<sup>62</sup>

**Coalition Operations.** In its assessment of third party transfers, the Atlantic Council stated, “At the military level, joint development and production of weapon systems encourage convergence of military doctrine, reduce individual country outlays for research and development, reduce unit costs, and promote standardization, interoperability and joint use. Industrial cooperation strengthens and deepens ties between the participants and reinforces alliance solidarity. Cooperation also helps to reduce concerns that emerging U.S. military capabilities, propelled by Washington’s large expenditures on new weapons systems, are creating a gap with its allies.”<sup>63</sup>

Gen Gregory S. Martin, commander of US Air Forces Europe and Allied Air Forces Northern Europe supported this premise by agreeing that NATO needs to develop weapons together. Compatibility between nations and cost sharing should be driving countries toward closer cooperation, “such an alliance-wide system would especially benefit newer NATO members, such as the Czech Republic, Hungary and Poland, which all have little money to modernize its forces.”<sup>64</sup> Unfortunately, Al Volkman, DoD’s Director of International Cooperation, said, “Not only is the capabilities gap growing, but also allies are becoming upset that we criticize them for their lack of capability, yet we refuse to share technology.”<sup>65</sup>

A major premise of the DoD’s drive to liberalize exports, however, is the argument that capability will be improved as corporations combined efforts and allies reduce

individual country costs. This fails to address the basic problem of allied spending. As long as budgets remain at their impecunious levels, combined development and industrial embraces will fall short of improving interoperability or allied performance.

**Reduced Development Costs.** The second major benefit from closer cooperation in this time of reduced budgets, argues liberalists, is pooling R&D costs. Perhaps the first truly joint allied program is the Joint Strike Fighter. JSF is the next generation of fighter aircraft, possessing the flight capabilities similar to an F-16, combined with advanced electronics and stealth characteristics. A consortium of countries are contributing to this US-led venture, with the UK paying the largest amount totaling eight percent of Engineering, Manufacturing, and Development (EMD) costs.<sup>66</sup> Unit costs are significantly reduced due to the large production runs: The US is purchasing 3000 aircraft, with the possibility of exporting an additional 3000. Equally remarkable, JSF is the first US-lead fighter program that had British involvement.<sup>67</sup>

Former Rear Admiral and Principal Deputy Under Secretary of Defense for Acquisition, Technology and Logistics, David Oliver, believes JSF is the type of arrangement that the DoD would like to encourage in the future. The Europeans are contributing to the R&D costs, offsets are not a concern, the US becomes the sole integrator of the world's fighter, and interdependence is encouraged in a capitalistic way, instead of being forced together by governments. He adds that the European industrial base is in trouble, because there is not enough local money. The result will be that NATO will become less effective. "You can't fight that countries want [defense] money spent at home, so by encouraging partnerships and mergers, everyone gains."<sup>68</sup>

Of course no program is without its critics. The US is disappointed that the UK is only buying 120 aircraft, while the UK complains about the lack of technology sharing.<sup>69</sup> Congress is concerned that the JSF program agrees to allow many nations access to the highly sophisticated stealth fighter.<sup>70</sup> Although, one conservative voice, Marshall Billingslea, is encouraged by the development. While not completely comfortable with controlling the sensitive systems, he appreciates that the US has improved the ability to protect technology and software from reverse engineering.<sup>71</sup>

**Access to Foreign Technology.** David Oliver said, “The world has changed today. Now we have to be worried about technical breakthroughs in another country. How do you let tech out?”<sup>72</sup> As technology becomes more global and more commercial, the DoD is losing its edge on solely possessing state-of-the-art technology. Unquestionably, the US still has the predominance of innovative military capability, and it surpasses others in many areas of commercial technology. The government, however, is slowly realizing that the high tech, dual-technology business means US industry needs access to foreign breakthroughs. The commercial world has already accepted this shift, and it is thriving as a result.<sup>73</sup>

Others are not convinced. Col Thompson agrees that allied technology has its merits, but it is grossly overstated. International cooperation with the British in developing the M-1 tank was indispensable, but that is not the norm. “While there are exceptions, the US is still the leader in defense technology.” He argues that public law already requires the US to exchange basic technology. Worldwide exchanges, combined with US innovations, keeps the DoD labs far ahead of the competition. Col Thompson agreed there might be times when the DoD will lose out in a particular area, but it will

capitalize on what it controls. “There needs to be a cost-benefit analysis. Are we getting as much as we give.” In his opinion, we are not.<sup>74</sup> Marshall Billingslea adds, “The DoD’s desire to promote industrial cooperation won’t work. European technology is inferior, ESDI [European Security and Defense Initiative] is an excuse to do less, and NATO is losing its capability to provide a common defense.”<sup>75</sup>

Gen Vyvyan disagrees, stating there is no dearth of brainpower in Europe. European laboratories are working on cutting-edge technologies. The problem lies in the lack of funding to bring the technology forward to production.<sup>76</sup> In fact, some experts believe that Europe should be well ahead of the US in embracing the high-tech global economy: Students regularly score better in science, math and technology; there is a growing number of engineering graduates, as opposed to the US’s fairly level rate; and Europe is leading the world in some fields such as digital communications and cellular technologies.<sup>77</sup>

Shocked by US successes, the shackles of socialism and strong central control of individual governments has been replaced in Europe by the much more liberal EU regime. In a recent success, two Belgium engineers produced an encryption design that beat out proposals from US and Japanese competitors to enhance computer security in the National Security Agency and other highly classified government organizations.<sup>78</sup>

## **Nonproliferation**

**Technology Transfer.** Conservatives believe that technology transfer is the key failing of the liberalization argument. Throughout the Cold War, America was able to delay the transfer of vital technologies to the Soviet Bloc, and thereby retain its edge on the battlefield. Nonproliferationists believe today the US is caught in an arms race with

itself. When Lockheed Martin lobbies Congress to support the Air Force's next generation fighter, the F-22, they describe an environment where the spread of Russian made MiG-29s and US made F-15s and F-16s now challenge our own air fleets.<sup>79</sup> It is equally difficult to rebuke our allies for selling arms to questionable nations, when the US is pouring multi-billion dollar sales into the Middle East.<sup>80</sup>

Edward Levine agreed that the competitive economic world might be allowing too much technology out. "The UK and French sales of air-to-air and air-to-ground missiles are creating a potential threat to US regional control."<sup>81</sup> What makes matters worse, is that US allies are under much greater pressure to export arms. Their domestic market is so small that they are forced to aggressively seek export opportunities. Liberalists counter that if the US can unify transatlantic industries, it will have a better chance of influencing the export policies of other countries.<sup>82</sup>

China provides an example of the lengths some countries will strive to obtain US technology. China has set up a large control network of institutions that develop or obtain technologies to advance the PLA's capability.<sup>83</sup> Here are just a few methods used by the PRC, as described in the Cox Report:<sup>84</sup>

1. "Princelings" (individuals connected by family ties to communist party leadership) exploit military, commercial and political connections to buy abroad
2. Illegally transfer U.S. military technology from other countries
3. Pressure US companies to transfer licensable technology illegally through joint ventures
4. Exploit Dual-use products and services for military advantage in unforeseen ways
5. Illegally divert licensable dual-use technology for military purposes
6. Use front companies to illegally acquire technology
7. Use commercial enterprises and other organizations as a cover for technology acquisition
8. Acquire interests in U.S. companies
9. Conduct espionage through government ministries, commissions, institutes, and military industries

10. Exploit weaknesses and lapses in the U.S. system for monitoring the sale and export of surplus military technology industrial auctions

In 1996 and 1997, US customs in Los Angeles seized over \$36M in excess military equipment, which was to be shipped illegally overseas. The equipment consisted of inertial navigation systems for the F-117 stealth fighter, computers and disks containing top-secret information, Patriot missile parts, electron tubes for the F-14, tank and howitzer parts, and encryption devices. In 1993, a PRC national was convicted of sending night vision technology through the US postal system. The Cox report further notes that the more technology a company is willing to divulge, the better likelihood they have of winning a Chinese contract.<sup>85</sup>

Another loss of technology comes in the form of licensed production and teaming arrangements. Lockheed helped the South Koreans with their \$5.2B fighter aircraft program in 1991. As an offset, Lockheed aided the Koreans in developing an indigenous production capability. Now that the Koreans can produce their own fighters, the US has no authority to control where they chose to export.<sup>86</sup>

Edward Levine believes that it is inevitable that we move in the direction of increased defense trade and multinational mergers. “Countries need to keep pace somewhat, in order to interoperate with us; they need to buy updated equipment...so there is an inevitable—hopefully controlled—diffusion of technology.” He adds that it also does not hurt our industrial base to continue to innovate in the face of world competition. He cautions, though, that a country, having received equipment more advanced than its neighbors, creates instabilities.<sup>87</sup>



**Businessmen Making National Security Decisions.** Another contentious issue for those fighting liberalizism is who is making decisions in the US government. Col Thompson relates “A lot of our leadership uses best business practices as the gauge for what they should and should not do. That is not a good standard for determining which technology should be controlled.”<sup>88</sup> Marshall Billingslea agrees that many political appointees have never served in the US government and have much more economic interests than national interests. It is part of the reason that the “DoD swings widely on export controls.”<sup>89</sup>

Liberalists argue that the decisions made are based on sound, clearly articulated goals and objectives. As to their experience, there is a mix of backgrounds, some of which contain little or no previous experience with national security. Conversely, some have an extensive military grounding, to include one of the chief architects, David Oliver.

**Casualty Rates Will Rise With Proliferation.** The Presidential Advisory Board on Arms Proliferation Policy criticized President Clinton solution of increasing the demand for US-made weapons systems to take up the slack on over capacity problems in industry. They felt that supply reduction should be the aim of the administration, and that the demand-side policy would only exacerbate the proliferation problem. Col Thompson reasoned that our National Military Strategy is for rapid, decisive defeat with minimal casualties. “Unethical arms dealers are no better than drug dealers. You can always find a buyer, which keeps the industry profitable, but eventually people die as a result. Who you sell weapons to requires an ethical consideration of the consequences, without it you can maintain a healthy industry, but soldiers of the US may die.”<sup>90</sup>

**Non-standard technology transfer policies will result in technology loss.** A major stumbling block in dealing with allies is third party transfers of technology. The US perception is the Europeans lack tight export controls. Although the UK, French, and Germans do have concrete regulations, many believe that not all European countries have the same laws, and that those laws are not always followed. Jim Durso adds that as Eastern European countries are integrated into the EU and NATO, fears of weak governmental control increases.<sup>91</sup>

US officials are also concerned with foreign government ownership in commercial companies, such as the French-controlled EADS. There are fears of French industrial espionage, as well as the French government's policy in selling to the Middle East.<sup>92</sup> Marshall Billingslea adds that independent law enforcement policies and people do not approach the cooperation the US has with the UK, Canada, and Australia, and that no country is as effective as the US in controlling technology loss.<sup>93</sup>

Even Canada, whose export control process is probably the most similar to that of the US system, has had problems. In April 1999, the intelligence community saw diversions of US technologies flowing to Iran from Canada. As a result, Canada's ITAR exemption, while never completely cut, was dramatically scaled back. After two years of negotiations and improvements, their process is now comparable to the US, and their broad exemption status has been restored.<sup>94</sup>

Liberalists agree that the goal of protecting technology is sound, but new realities are making it less possible. *Global Trends 2015*, sponsored by the National Intelligence Council warns, "Export control regimes and sanctions will be less effective because of the diffusion of technology, porous borders, defense industry consolidations, and reliance

upon foreign markets to maintain profitability. Arms and weapons technology transfers will be more difficult to control.”<sup>95</sup> Al Volkman notes that we have become too worried about third party transfers. “We need to determine how important is it to our national security if some technology goes out.”<sup>96</sup>

**Can’t Stop Enemy Improvement, but Can Slow the Process.** A naturalized Canadian from Iran and a Malaysian national were arrested for trying to export parts for the F-14 Tomcat, the F-5 Tiger, and the F-4 Phantom to Iran without an export license. In 1998, a naturalized US citizen from Iran was convicted for trying to smuggle out F-14 parts to Iran. In September, a man pleaded guilty for trying to ship night-vision goggles and helicopter parts to Pakistan. In November, a Canadian citizen was convicted of attempting to ship gyroscopes used in missile guidance out of the country. “Customs officials say the smuggling of military parts and high-technology components used in weapons systems is a thriving industry in the United States.”<sup>97</sup>

Potential commercial or military adversaries continue their assault on US technology. Even with effective barriers, it is a challenge to stop the flow, but conservatives argue without those barriers, the loss would be devastating. Douglas McDaniel concurs, “Substantial evidence exists that the COCOM system delayed Soviet acquisition of key weapons systems and military technologies by five to ten years”<sup>98</sup>

Unfortunately, the environment in which COCOM thrived no longer exists. Numerous proliferators have replaced the two superpowers, and information technology is accelerating the spread of ideas and equipment. Additionally, sealing US borders will only provide other arms-producing countries with lucrative markets to sell their products and finance new R&D investments.

India is selling advanced helicopters to Turkey, and antiaircraft missiles, warships, tanks, and fighters to whomever can afford them.<sup>99</sup> France is reportedly marketing stealth cruise missiles worldwide and aiding Russia in night vision technology.<sup>100</sup> Israel licensed antiship missiles to Taiwan and South Africa, and they are working with China on a new F-10 fighter. China and Pakistan are developing the FC-1 fighter, the K-8 trainer, and the Al-Khid battle tank.<sup>101</sup> Russia is not only supplying arms to India, but through their arms sales to China they are indirectly supplying Pakistan too, thereby fueling both sides of an arms race.<sup>102</sup> There seems to be plethora of suppliers of advanced technology if the US source dries up. While much of the technology is a generation behind the US, the US often sells generation old systems as well.

Marshall Billingslea agrees that the US cannot lock down its technology. What it can do is understand what technology and integration knowledge is truly important and share that only with trusted friends. He suggests that perhaps the US has set too many artificial timelines for some countries to develop superior capabilities. Instead, “We can slowly let out technology as new generations come on line. If a potential adversary like China is getting Russian technology that is commercially available, it may be acceptable to sell it to China, but it has to be handled on a case-by-case basis.”<sup>103</sup>

Additionally, diffusing technology is not always as simple as it may first appear, offers Judith Reppy. Often technologies and processes are difficult to reverse engineer, because potential perpetrators lack the R&D background that first produced the technology. Even if the ideas are obtained, the host country still possesses the original creators, the environment, and the synergy that was essential in developing the capability. Those elements are difficult, if not impossible, to reproduce. She concludes that military

technology is even more unusual, requiring a specialized set of skills—the US has this group of people, and few others can compare.<sup>104</sup>

**Enforcement.** The final area under the military nonproliferation argument is enforcement—a topic that was largely ignored by the interviewees and literature—but one that is vitally important to those working directly in the field. The most outspoken critic of the current enforcement operations was Michael Maloof, Chief of Technical Security for the Defense Threat Reduction Agency. “Proliferation has expanded dramatically over the past eight years.” Now, countries having captured US technology are producing superior products and proliferating their own technology.”<sup>105</sup>

Maloof continued that once a company merges internationally, the US loses track of the technology flow. “The intel community is just looking at the end result and not how it’s happening. We need to be concerned with how technologies are being assembled over time. The intel community has been dismantled over time and it is now irrelevant.” He argues that as long as the US is only concerned with the end-use and end-user it will always be behind in the proliferation game. Instead of just determining the opponent’s current capabilities, the US should try to understand how those capabilities were assembled, where the equipment and knowledge came from, and what technologies are truly critical to protect—be they commercial or defense related.<sup>106</sup>

“During the Reagan years, the “hot section” of engines was on the munitions list, because the US intelligence community knew the Soviets and Chinese were targeting that technology. Since then, the “hot section” and satellites moved to DoC list, and we no longer know how that technology is being exploited. It was DTRA that uncovered how satellite technology was being used by Chinese.” Maloof relates that is was also DTRA

that determined the North Korean SCUD-C steel had improved. Upon closer inspection they found that the Japanese, unknowingly, had provided the steel. Once the Japanese realized their error, they were quick to tighten their controls to prevent further occurrences.<sup>107</sup>

Maloof agrees that the munitions list could be reduced to more critical technologies, and he applauded Martha Harris's idea to do a top down scrub. He cautioned, however, that with the current enforcement regime and the lack of insight into critical technologies, third party transfers could not be tracked, and therefore the list must remain large. In addition, he insisted that if the list is reduced too much, the enemy could still build on previous generation technology. "Even if the tech isn't WMD [Weapons of Mass Destruction], it can still be used by a range of participants to produce asymmetrical threats."<sup>108</sup>

Jacques Gansler concurs, "This issue of making sure we have security control over the technology, over the products, over third-country sales, over leakage, drives us to consider the company and the countries [involved in any potential merger], their history and their background. We also need to consider whether or not [these countries] have agreements that honor some of our legal and ethical behavior; whether or not they share intelligence freely with us; and then, finally, what kinds of controls do they have over their technology." The main concern is not over who owns the company, it is how technology transfer is controlled.<sup>109</sup>

Speaking candidly, Maloof stated, "The major problem with sending technologies to our allies is France. How do you stop France from taking US technology, putting it on

their engine, and then selling it to Iraq?”<sup>110</sup> General Vyvyan concurred that the French have “no moral incentive” to control where they sell armaments.<sup>111</sup>

Maloof’s solution is to reinvigorate the science and technology divisions at the Defense Intelligence Agency (DIA) and the Central Intelligence Agency (CIA). The Defense Threat Reduction Agency (DTRA) needs to look at “choke point technologies.” Dummy companies should be created with modified technologies to confuse potential proliferators, allies should team together to disrupt underground acquisition networks, and an operations center should be created that reports to the Secretary of Defense. Finally, “If we’re prepared to sell a technology—even with our closest ally—we should have countermeasures to defeat it.”<sup>112</sup>

Edward Levine agreed that enforcement could be improved, and that it should probably fall under the DoD. He added that there are on-going initiatives to improve the process. Legislation was recently passed for directing shippers to use electronic information for better analysis of exports. The new administration has also said that the US will build and support our alliances, which will involve increased enforcement.<sup>113</sup>

Michael Dickson described the compliance program at DTC. It is broken into two branches: The Compliance Enforcement Branch works internally on civil matters, and with the Customs and Justice community on criminal matters. The Research and Analysis Branch teams with the Intelligence community and with other countries to check on cases or watch trends. The Branch is also responsible for notifying Congress of any violations. Contrary to Mr. Maloof, he believes that there is good cooperation with the intelligence community in looking at the aggregation of technology and patterns in

export flows. It is not as apparent that the aggregation information exists, because it is not consolidated in one place.<sup>114</sup>

## **The Political Dimension**

### **Liberalization**

Bulgaria announced recently that they intend on spending between \$200M and \$300M on a fighter upgrade. Germany, who is advocating the Swedish Gripen over the US F-16, intimated that if Bulgaria wanted to join the EU they had better shop in Europe. The Bulgarians countered that Washington is also putting on pressure to buy from the US. “This is the ransom that each country has to pay [the US] to ensure its peace of mind. If we do not pay this money, we will soon see reports on how we are discriminating against the Gypsies or suppressing religious freedoms.”<sup>115</sup> “Foreign countries realize that when they buy [US products] they’re gaining a relationship,” said Jim Durso.<sup>116</sup>

While this type of coercion may seem unfair, its part of the international bartering system that allows America to push forward its foreign policy, and at the same time, provide the security of US support to foreign governments. Unfortunately, liberals believe the export system is undermining US influence in international affairs, and that “the export system is unresponsive and proud of it.”<sup>117</sup>

**Export Controls.** In the fall of 1999, the European defense industry began taking more aggressive action against what they believe to be excessively restrictive export controls. German DASA Chairman Manfred Bischoff sent a memo to managers, “because of this uncertain export-license situation, the use of U.S. goods, especially U.S.



defense goods, should be avoided at all costs. Wherever U.S. goods are being used, they should be substituted as quickly as possible with non-U.S. goods.”<sup>118</sup> A month later, Bischoff wrote Secretary of State Madeline Albright, stating, “I respectfully urge you to review current export control policies and procedures with a view towards promoting cooperation among NATO allies and laying the groundwork for possible future transatlantic industrial mergers...the current system of export and technology control as practiced by the United States and especially by the Department of State serves to discouraged rather than encourage, such cooperation.”<sup>119</sup> Joseph C. Anselmo, Director of Asia Pacific Aerospace Consultants, concluded, “Frankly, America is no longer seen as a reliable supplier or partner...American companies can neither guarantee export permission nor estimate how long getting that permission might take.”<sup>120</sup>

Jeff Hofguard, Director of International Export Policy and Strategy for Boeing, believes that Europeans balk at the thought of the US controlling their third party transfer agreements.<sup>121</sup> Although the European industry is highly dependent on US components for its major weapons systems, if American attitudes persist, they could be forced to develop their own indigenous capabilities. While this move used to be cost prohibitive country-by-country, with the growing strength and consolidation of the EU, it may no longer be impractical. The US could be hurt by the loss of business and the growing fortress walls separating the US and Europe.

Another example of European resistance is their push to develop an independent military force outside of NATO.<sup>122</sup> In December 1999, the EU agreed to create a 60,000-person rapid reaction force ready for deployment in 2003. This effort is now known as the European Security and Defense Policy (ESDP).<sup>123</sup> As Gen Vyvyan aptly put it, “as far

as the Americans are concerned, ESDP is all gong and no dinner. They question how are you going to get a rapid reaction force without paying or rationalizing industry to make it more efficient?”<sup>124</sup>

A CSIS study adds that a rapid reaction force needs air and sealift, precision weapons, and advanced command, communications, and intelligence systems—systems that are all costly to procure. Since it is unlikely the government would be willing to pay for a force that compares to US forces in the Kosovo operations, the Rapid Reaction force will probably be an ineffectual body that settles for marginal capabilities.<sup>125</sup> Not only could a separate force be bad for alliance cohesion, but money could also be siphoned away from NATO upgrades to pay for the force.<sup>126</sup>

### **Congressional Interference.**

*Affecting Best Business Practices.* A prime example of congressional interference affecting market share is in the satellite industry. After the explosion of a Chinese rocket, which carried a US spacecraft containing sensitive technology, Congressmen worried about the technology falling into the wrong hands. Industry leaders argued that most of technology in US satellites is readily available from foreign suppliers, but to no avail. Following the Cox Commission’s report on PRC Acquisition of various US technologies, Congress took the oversight of satellite systems away from the more liberal DoC and placed it under DoS. By doing so, satellite technology became more difficult to obtain, making it harder for foreigners to do business with the US. Buyers began to look elsewhere for support and to develop their own capability<sup>127</sup>

The result stated by the Los Angeles Times was, “tighter export controls triggered by fears of Chinese espionage are crippling the U.S. satellite industry and undermining

American technological supremacy at a time of fierce global competition.” Two years after Congress had made the shift, the US global market share had fallen from 75% to 45%. For example, between 1997 and 1998, US Geosynchronous satellite sales fell from 16 to 13, while European sales rose from 6 to 16. Many experts were further concerned that this decline would seriously jeopardize the country’s commercial and military competitiveness.<sup>128</sup>

Singapore Telecommunications was forced to cancel a \$450M purchase of two satellites from Hughes Space and Communications, because DTC disapproved of the satellites being launched on Chinese rockets. The Canadian government also ran afoul with DoS and cancelled a \$75M deal with Orbital Science Corporation, due to restrictive licensing controls. Even Stanford cancelled its plans to launch a student satellite project on a Russian rocket when DoS required them to register as an arms exporter.<sup>129</sup> William Reinch believes that the DoS system of multiple checks on pieces and processes, each requiring a separate license, is impractical for the commercial world. “The drop in satellite sales is a direct result of DoS mishandling.”<sup>130</sup>

Congress’s blunder was even conceded by the original sponsors of the move. Rep. Dana Rohrabacher, a major supporter of shifting satellite controls to DTC, was considering recommending a move back to DoC. He blamed the problems, not on the process, but that the “State Department was dragging their feet.”<sup>131</sup> DoS countered that their processing time for multi-departmental reviews had dropped to 50 days, and their in-house reviews were taking only 17. Satellite experts disagreed stating that they were still experiencing 100-day turnarounds, at a time when an entire contract typically took

only 90 days. They added that they had been afraid to voice their concerns to DoS for fear of retaliation.<sup>132</sup>

In addition, the number of employees handling satellite licensing had risen from 3 under the DoC regime, to 20 under DoS. This correlates with Richard Cupitt's findings that the average company has 24 employees and spends \$1.3M annually just to deal with DoS licenses.<sup>133</sup>

A harsh verdict also befell the aerospace industry when the UK chose BAe to develop a new Beyond Visual Range Air-to-Air Missile (BVRAAM) versus buying an already existing upgrade of a Raytheon air-to-air missile. The reasoning was that the BVRAAM would be the missile flown on the new Eurofighter. If the UK teamed with Raytheon, Eurofighter sales would be tied to US export controls governing third party transfers.<sup>134</sup> It was inane to hold up exports just because a component of the system fell under US jurisdiction.<sup>135</sup>

The bottom line is that European and US industry are fearful that Congress has become overly concerned about tech transfer as a result of the Cox Report and recent Chinese espionage charges.<sup>136</sup> Those fears are translating into losses for industry.

*Keeping Commitments.* Congress has also been criticized for their failure to keep commitments. In a recent development, Congress threatened to stop funding the US-UK developed TRACER light armored reconnaissance vehicle, because US Army priorities are changing. Though Army transformation concerns are important, the US has made a commitment with its closest ally to collaborate on a system that will enhance their collective capabilities at reduced costs. Reneging on the agreement will serve to reinforce European distrust. British Ambassador Sir Christopher Meyer wrote to Senator

Ted Stevens stating, “The threat of US withdrawal from a project which is going well has already sent a sobering message on the reliability of the US as a collaborative partner.”

137

In another example, Sen. Joseph Biden, the ranking member of the Senate Foreign Relations Committee, halted a \$350M export license of 8 Sikorsky CH-53E helicopters to Turkey, because he did not approve of the flippant response he received from Turkey’s Prime Minister, Bulent Ecevit, concerning Cyprus. After a flurry of diplomacy between the State Department and the senator’s office, the sale was approved. In a similar story, Rep. Jim Rogan, threatened to halt the sale of 145 King Cobra helicopters until State Department officials received training on Armenian genocide. The matter was dropped only after President Clinton intervened.<sup>138</sup>

A prime accomplice in the US’s lack of commitment is the DoD and the individual services. An Atlantic Council policy paper described the DoD culture as “characterized by apathy, indifference, even hostility, to cooperation with foreign suppliers.” Services select under funded, low priority projects to meet policy demands and then cancel them. Congress quietly supports such attitudes, because it assures US jobs will be preserved.<sup>139</sup> Jeff Bialos added that the “military chooses not to put joint programs in the mainstream. They pick joint programs they don’t care about. The new Chief [of the Joint Staff] needs to hold services to a solid commitment. The services have a long cultural uphill battle with buying foreign products.”

*Protectionism.* “One member lobbies for a specific weapons system manufactured in his or her district, even though it is neither requested by the military service nor needed in inventory; another member lobbies to retain a military base open back home although it is

no longer part of military force structure plans; a third lobbies for a weapon sale abroad, fully cognizant that the transfer proliferates high technology and eventually may threaten U.S. troops in the region.”<sup>140</sup>

A report by the CSIS senior policy panel on restructuring the defense industry stated protectionism of the industrial base, and unreasonable acquisition requirements are hurting the industry, the economy, and the taxpayers. “If the government tries to protect these giants it will stifle competition and replace it with protected complacency.”<sup>141</sup>

Shipbuilding is perhaps the ultimate example of unadulterated protectionism. In September 2000, the Washington Times reported that DoD acquisition officials were proposing legislation to change current law so the Secretary of Defense (SECDEF) could authorize buying auxiliary ships from abroad, while leaving the ban on foreign-built combat ships intact. Congressmen from shipbuilding states reacted quickly, by requesting opposition wording be placed in Defense Appropriations Bill.

Rep Duncan Hunter (R-CA) wrote chairs of Senate the House Armed Services Committees; “I believe this proposal would have a devastating impact on our shipbuilding industrial base. With the Pentagon building on average only six ships per year for the past eight years, our six remaining shipyards are operating well below their production capability. Allowing naval support vessels to be built overseas would likely result in additional shipyard closures. I believe a further erosion of our shipbuilding industrial base is a clear threat to our national security.”<sup>142</sup>

Sen. Charles Rob (D-VA) in writing to the SECDEF stated, “Several of my Senate colleagues and I are eager to help the Navy find the resources to adequately fund its near and long-term ship construction requirements, but I cannot accept the idea that we must

do so at the peril of America's high quality, competitive, and affordable shipbuilding industry.... it is operationally unnecessary and the risk to our industrial base is apparent.”<sup>143</sup> In a related story, Newport News recently received a contract to build a new submarine against the Navy objections.<sup>144</sup>

Why the country needs to subsidize massive overcapacity in six shipyards that produce on average one ship a year, or build unwanted multi-billion dollar submarines, is difficult to justify. Edward Levine counters, “While some companies are very influential with certain members of Congress, few place business over security.”<sup>145</sup>

## **Nonproliferation**

**European Protectionism.** The conservatives argue that although the US may use its export system to apply a degree of protectionism, it pales in comparison with Europe. The Letter Of Intent signed by France, Germany, Italy, Spain, Sweden, and the UK in 1998 is an overt attempt at creating a “buy-European” regime. Under the Framework Agreement that replaced the LOI, the signatories have agreed to collaborate on export destinations by project, and require no licenses for exporting equipment and intelligence between the countries. Although there is still the problem that most of their systems rely on US subcomponents, which are controlled by US export laws, that hurdle could be slowly overcome.<sup>146</sup>

Complementing the Framework Agreement, Germany and France proposed the Organization for Joint Cooperation on Armaments (OCCAR) in 1996, which will provide a single legal entity to manage joint contracts. They later convinced the UK to sign in order to compete in large Airbus contracts.<sup>147</sup> OCCAR became law in January, 2001, solidifying the partnership. The combination of dropping trade barriers, export controls,

and working jointly on contract management appears to put the US at a disadvantage when competing for new business.

A CSIS paper on Fortress Europe recently said, “The Meteor decision reaffirmed, the defense industry for Europe will always be first and foremost a compromise between politics and economics, and only secondarily a matter of national security.” Even though there is pressure to Buy European, however, the US still produces the top technology for the best price. They conclude that the UK predominantly buys US, but they will go European if required to for harmony.<sup>148</sup> Mike Jenner, Director of Export Services Policy in Britain’s Ministry of Defense, caveated that conclusion by stating that the US usually produces superior equipment, but it is often an expensive solution that provides more capability than is needed. European equipment, though less capable, is also less expensive, yet it meets the demands of the region.<sup>149</sup>

Many predict growing pains ahead. Joel Johnson sees trouble between the US and Europe emerging over the exports for the next two to three years. “The Europeans are eventually going to hit a bow wave because whether they buy from the US or Europe, it won’t make up for their lack of defense spending.”<sup>150</sup> Others feel that increasing multinational mergers, such as BAe and Lockheed, will play a pivotal role in unifying the continents. Even though the EU will continue to grow stronger, commercial industry and the public will seek the best value for their money.<sup>151</sup>

**Diminished Unilateral Control.** “The United States will also have greater difficulty building coalitions to support its policy goals, although the international community will often turn to Washington, even if reluctantly, to lead multilateral efforts in real and potential conflicts,” stated *Global Trends 2015*.<sup>152</sup> Nonproliferationists are



worried that as the US enters into coalition agreements, and becomes more dependent on foreign technology and manufacturing, a great deal of flexibility to implement foreign policy will be lost.

Richard Bitzinger believes that unilateral capability provides the US with psychological and physical flexibility, global export clout, and the implied support of the US in time of crisis. He added, however, “It’s getting tougher to go it alone because the market and budgets are shrinking. It’s also becoming more difficult to break into markets, because buyers want to be part of the development.”

*Global Trends 2015* concludes, “Globalization and technological change are raising widespread expectations that increased international cooperation will help manage many transnational problems that states can no longer manage on their own. Efforts to realize such expectations will increase, but concerns about national interests as well as the costs and risks involved in some types of international activism will limit success.”<sup>153</sup>

## Notes

<sup>1</sup> Ashbourne, *Opening the US Defense Market*, 8.

<sup>2</sup> Defense Science Board, *Task Force on Globalization and Security*, 10.

<sup>3</sup> Adams, “The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities,” 19-20.

<sup>4</sup> *Third Party Arms Transfers: Requirements for the 21<sup>st</sup> Century*, 11.

<sup>5</sup> Adams, “The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities,” 20.

<sup>6</sup> Defense Science Board, *Task Force on Globalization and Security*, 15.

<sup>7</sup> *Security Assistance Act of 2000*, Public Law 106-280, 106<sup>th</sup> Cong., H.R. 4919 (6 October 2000).

<sup>8</sup> Zakheim, 7.

<sup>9</sup> *International Traffic in Arms Regulations*, Department of State, 22 CFR Ch. I, subchapter M, January 1999, 394.

<sup>10</sup> *Defense Restructuring and the Future of the U.S. Defense Industrial Base*, 26.

<sup>11</sup> “United States Defense Trade Security Initiative,” summary fact sheets (Washington D.C.: *Department of State*, Dec 2000), 11.

## Notes

<sup>12</sup> Martha Harris, Atlantic Council of the United States, interviewed by author, 11 January 2001.

<sup>13</sup> Dr. George E. Menus, Technology Security Policy Division, Defense Threat Reduction Agency, interviewed by author, 15 November 00.

<sup>14</sup> Kirkland.

<sup>15</sup> Adams, "The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities," 20.

<sup>16</sup> Ibid., 21.

<sup>17</sup> Jefferson S. Hofgard, Boeing Corporation, interviewed by author, 5 January 2001.

<sup>18</sup> Defense Science Board, *Task Force on Globalization and Security*, iii.

<sup>19</sup> Zakheim, 16.

<sup>20</sup> Kirkland.

<sup>21</sup> Ashbourne, *Opening the US Defense Market*, 2-3.

<sup>22</sup> Defense Science Board, *Task Force on Globalization and Security*, 10.

<sup>23</sup> Ashbourne, *Opening the US Defense Market*, 10.

<sup>24</sup> Ibid.

<sup>25</sup> Defense Science Board, *Task Force on Globalization and Security*, 16.

<sup>26</sup> Michael Dickson, Office of Defense Trade Controls, Department of State, interviewed by author, 8 February 2001.

<sup>27</sup> Defense Science Board, *Task Force on Globalization and Security*, 27.

<sup>28</sup> Johnson.

<sup>29</sup> James D. Durso, National Security News Service, interviewed by author, 21 December 2000.

<sup>30</sup> Johnson.

<sup>31</sup> Amy M. Coletta and Steven W. Brosnan, Office of Plans, Policy & Analysis, Department of State, interviewed by author, 19 December 2000.

<sup>32</sup> Durso, 21 December 2000.

<sup>33</sup> Marshall S. Billingslea, Committee on Foreign Relations, U.S. Senate, interviewed by author, 7 December 2000.

<sup>34</sup> Harris.

<sup>35</sup> Dickson.

<sup>36</sup> William Reinsch, Undersecretary of Export Administration, Department of Commerce, Department of State 19 December 2000.

<sup>37</sup> Bialos interview.

<sup>38</sup> Hofgard.

<sup>39</sup> "Proposed U.S. Arms Export Agreements From January 1, 2000 to June 30, 2000," 1.

<sup>40</sup> Mark Strass and Pennington Way, "Biden Holds Up Export License For CH-53Es For Turkey," *Defense News*, 16 Nov 2000, and "Proposed U.S. Arms Export Agreements From January 1, 2000 to June 30, 2000," 1.

<sup>41</sup> David Quinn, Office of Regional Security and Arms Transfers, Department of State, interviewed by author, 19 December 2000.

<sup>42</sup> Hofgard.

<sup>43</sup> Reinsch.

## Notes

<sup>44</sup> Ibid.

<sup>45</sup> Edward P. Levine, Committee on Foreign Relations, U.S. Senate, interviewed by author, 19 January 2001.

<sup>46</sup> Richard Bitzinger, Atlantic Council of the United States, interviewed by author, 19 October 00.

<sup>47</sup> David A. Fulghum, "China Slips Past U.S. AWACS Ban," *Aviation Week & Space Technology*, 4 December 2000, 31.

<sup>48</sup> "Pakistan To Sign Big Arms Export Deals With Several Countries," 13.

<sup>49</sup> Vyvyan.

<sup>50</sup> Adams, "The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities," 13.

<sup>51</sup> David Gold, "The Changing Economics of the Arms Trade," in *Arming the Future: A Defense Industry for the 21st Century*, ed. Ann R. Markusen and Sean S. Costigan (New York, N.Y.: The Council on Foreign Relations Press, 1999), 255-262.

<sup>52</sup> *Technology Transfer to China*, report (Washington D.C.: Office of Strategic Industries and Economic Security, Department of Commerce), n.p.; on line. Internet, 17 November 2000, available from, [http://www.doc-bxa.bmpcoe.org/dmrr\\_chinatech.html](http://www.doc-bxa.bmpcoe.org/dmrr_chinatech.html).

<sup>53</sup> Gold, 261-264. Gold reports from 1991-1995 US arms sales in constant dollars averaged \$14.8B. William Hartung of the World Policy Institute calculated the US expended \$7.7B in FY95 to finance and promote arms sales. The number was derived from \$3.2B in DoD aid grants to purchase equipment, \$1B in forgiven loans, over \$2B for FMS from other US agencies, and \$400M for DoD, DoC, and DoS FMS support costs. See William D. Hartung, *Welfare for Weapons Dealers: The Hidden Costs of the Arms Trade* (New York: World Policy Institute, 1996).

<sup>54</sup> Ibid., 263.

<sup>55</sup> Menzi D. Chinn, Council of Economic Advisors, interviewed by author, 14 November 00.

<sup>56</sup> *Global Trend 2015: A Dialogue About the Future With Nongovernment Experts*, report (Washington D.C.: Prepared under the direction of the National Intelligence Council, December 2000) NIC 2000-01, n.p.; on line. Internet, 3 January 2001, available from <http://www.cia.gov/publications/globaltrends2015/indux.html>, 38.

<sup>57</sup> *Technology Transfer to China*.

<sup>58</sup> Paul F. Walker, "Redefining National Defense: The Challenge of Cold War Politics and Economics on Capitol Hill," in *Arming the Future: A Defense Industry for the 21st Century*, ed. Ann R. Markusen and Sean S. Costigan (New York, N.Y.: The Council on Foreign Relations Press, 1999), 173.

<sup>59</sup> Michael Maloof, Technology Security Operations, Defense Threat Reduction Agency, interviewed by author, 12 January, 2001.

<sup>60</sup> Dr. Keith Hayward, Society of British Aerospace Companies, interviewed by author, 21 February 2001.

<sup>61</sup> James, M. Bodner, "Export Control Reform as a National Security Imperative," address by Principal Deputy Under Secretary of Defense for Policy, Washington D.C., 2000, 1.

<sup>62</sup> Ibid., 5-6.

## Notes

- <sup>63</sup> *Third Party Arms Transfers: Requirements for the 21<sup>st</sup> Century*, 2.
- <sup>64</sup> Marni McEntee, "General Says NATO Needs Shared Arms," *European Stars and Stripes*, 1 December 2000 11.
- <sup>65</sup> Volkman.
- <sup>66</sup> Brzoska, 311.
- <sup>67</sup> Johnson.
- <sup>68</sup> David R. Oliver, Jr., Principal Deputy Under Secretary of Defense for Acquisition, Technology and Logistics, interviewed by author, 6 December 2000.
- <sup>69</sup> Ashbourne, *Opening the US Defense Market*, 12.
- <sup>70</sup> Levine.
- <sup>71</sup> Billingslea.
- <sup>72</sup> Oliver.
- <sup>73</sup> Adams, "The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities," 16.
- <sup>74</sup> Thompson.
- <sup>75</sup> Billingslea.
- <sup>76</sup> Vyvyan.
- <sup>77</sup> William Drozdiak, "Old World, New Economy: Technology, Entrepreneurship Are Transforming Europe," *The Washington Post*, 18 February 2001, H5.
- <sup>78</sup> Ibid.
1. <sup>79</sup> Lora Lumpe, "A Framework for Limiting the Negative Consequences of Surplus U.S. Arms Production and Trading," in *Arming the Future: A Defense Industry for the 21<sup>st</sup> Century*, ed. Ann R. Markusen and Sean S. Costigan (New York, N.Y.: The Council on Foreign Relations Press, 1999), 289.
- <sup>80</sup> Ibid., 288. A counter argument could be made that it is in the US's vital interest to ensure energy security by maintaining a balance of force in the Middle East.
- <sup>81</sup> Levine.
- <sup>82</sup> Kenneth Flamm, "Redesigning the Defense Industrial Base," in *Arming the Future: A Defense Industry for the 21<sup>st</sup> Century*, ed. Ann R. Markusen and Sean S. Costigan (New York, N.Y.: The Council on Foreign Relations Press, 1999), 232.
- <sup>83</sup> *PRC Acquisition of U.S. Technology*, 3.
- <sup>84</sup> Ibid., 9.
- <sup>85</sup> *PRC Acquisition of U.S. Technology*, and Ayesha Siddiq, "An Indefensible Industry?" *Karachi Newslin* in English, 1-20 February 2000 109F-113F.
- <sup>86</sup> Lumpe, 289.
- <sup>87</sup> Levine.
- <sup>88</sup> Thompson.
- <sup>89</sup> Billingslea.
- <sup>90</sup> Thompson.
- <sup>91</sup> Jim Durso, interviewed by author, 21 March 2001.
- <sup>92</sup> Ashbourne, *Opening the US Defense Market*, 6.
- <sup>93</sup> Billingslea.
- <sup>94</sup> Coletta.
- <sup>95</sup> *Global Trend 2015*, 9.

## Notes

<sup>96</sup> Alfred G. Volkman, International Cooperation, Department of Defense, interviewed by author, 21 November 00.

<sup>97</sup> Vernon Loeb, "2 Charged In Plot To Export Jet Parts," *Washington Post*, 10 December 2000, 2.

<sup>98</sup> Cupitt, 10.

<sup>99</sup> "Can Russia Deliver On Arms Sales?" *Christian Science Monitor*, 20 November 2000.

<sup>100</sup> Flamm, 232, and Thompson.

<sup>101</sup> Bitzinger, "Globalization in the Post-Cold War Defense Industry: Challenges and Opportunities," 320.

<sup>102</sup> Durso, 21 March 2001.

<sup>103</sup> Billingslea.

<sup>104</sup> Judith Reppy, "Dual-Use Technology: Back to the Future?" in *Arming the Future: A Defense Industry for the 21st Century*, , ed. Ann R. Markusen and Sean S. Costigan (New York, N.Y.: The Council on Foreign Relations Press, 1999), 277-278.

<sup>105</sup> Maloof.

<sup>106</sup> Ibid.

<sup>107</sup> Ibid.

<sup>108</sup> Ibid.

<sup>109</sup> Jacques Gansler, interview with the U.S. Defense Undersecretary for Acquisition and Technology, *Defense News*, n.p.; on line. Internet, 21 September 2000, available from [http://www.dean.usma.edu/socs/ECON/ens/news/15Mar\\_Gansler.htm](http://www.dean.usma.edu/socs/ECON/ens/news/15Mar_Gansler.htm), 2-3.

<sup>110</sup> Maloof.

<sup>111</sup> Vyvyan.

<sup>112</sup> Maloof.

<sup>113</sup> Levine.

<sup>114</sup> Dickson.

<sup>115</sup> "Political Implications of Choosing New Fighter for Bulgarian Air Force Viewed," *Sofia Novinar* in *FBIS International Press Highlights*, 29 January 2001, 1.

<sup>116</sup> Durso, 21 December 2000.

<sup>117</sup> Reinsch.

<sup>118</sup> Vago Muradian, "Allies Call On Albright to Reform Export Controls," *Defense Daily*, n.p.; on line. Internet, 23 March 2001, available from <http://206.181.245.163/ebird/January00/e20000106allies.htm6>.

<sup>119</sup> Ibid.

<sup>120</sup> Adams, "The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities," 25, notes section.

<sup>121</sup> Hofgard.

<sup>122</sup> Zakheim, 42-43.

<sup>123</sup> Adams, "The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities," 5.

<sup>124</sup> Vyvyan.

<sup>125</sup> Zakheim, 25-29.

<sup>126</sup> Ibid., 42-43.

## Notes

- <sup>127</sup> Defense Science Board, *Task Force on Globalization and Security*, 2.
- <sup>128</sup> Evelyn Iritani and Peter Pae, "U.S. Satellite Industry Reeling Under New Export Controls," *Los Angeles Times*, 11 December 2000, 1.
- <sup>129</sup> Ibid.
- <sup>130</sup> Reinsch.
- <sup>131</sup> Iritani, 1.
- <sup>132</sup> Ibid.
- <sup>133</sup> Cupitt, 163.
- <sup>134</sup> Ashbourne, *Opening the US Defense Market*, 12.
- <sup>135</sup> Zakheim, 31. This argument is partially mitigated, since most European weapon systems contain some portion of US technology.
- <sup>136</sup> Colin Clark, "Pentagon Chiefs May Slow Pace On Globalization," *Defense News*, n.p.; on line. Internet, 21 September 2000, available from <http://www.dean.usma.edu/socs/ECON/ens/news/>, 1-2.
- <sup>137</sup> Ashbourne, *Opening the US Defense Market*, 11.
- <sup>138</sup> Strass.
- <sup>139</sup> *Third Party Arms Transfers: Requirements for the 21<sup>st</sup> Century*, 10-11.
- <sup>140</sup> Walker, 179.
- <sup>141</sup> *Defense Restructuring and the Future of the U.S. Defense Industrial Base*, 14, 23.
- <sup>142</sup> Rowan Scarborough, "Pentagon Kills Proposal to Let Navy Buy Foreign-Built Ships," *Washington Times*, n.p.; on line. Internet, 21 September 2000, available from <https://ca.dtic.mil/cgi-bn/ebird>, 2.
- <sup>143</sup> Ibid.
- <sup>144</sup> Sapolsky, 195-196.
- <sup>145</sup> Levine.
- <sup>146</sup> Zakheim, 16.
- <sup>147</sup> Ibid, 15.
- <sup>148</sup> Zakheim, 24,40.
- <sup>149</sup> Jenner.
- <sup>150</sup> Johnson.
- <sup>151</sup> Zakheim, 38-40..
- <sup>152</sup> *Global Trend 2015*, 10.
- <sup>153</sup> Ibid., 32.

## **Chapter 5**

### **Initiatives**

This chapter explores several of the on-going initiatives that are attempting to address concerns by the liberalization and nonproliferation communities. As with any compromise, there are ample problems, but each initiative shows a potential to built upon in the future.

#### **Wassenaar Arrangement**

As described previously, the Wassenaar Arrangement is the successor to COCOM. Its purpose is to limit arms proliferation to rogue nations or others who may be deemed questionable. In addition, a Code of Conduct has been developed and adopted by the European Parliament, but the US Congress has resisted supporting the code, in part, due to industry lobbying.<sup>1</sup> Both the Wassenaar Arrangement and the Code of Conduct are left to individual countries.

Wassenaar differs significantly from COCOM in a number of ways. First, the membership is much broader, which includes allies, former adversaries, neutrals, and others. Members are required to adhere to the MTCR, the Australia Group, the Nuclear Suppliers Group, the Chemical and Biological Weapons Conventions, and START I (if applicable). They are also required to “implement an effective export control system and adopt appropriate national policies.”<sup>2</sup>

The actual list of controlled items is based on the other agreements as well as COCOM's former tiered lists. The group no longer approves licenses on basic technologies, but instead, members are only required to notify each other every six months when exports are made to non-members. For sensitive technologies, members are to notify each other within 60 days of any rejected applications to non-members, as well as any approved applications that were previously rejected by another member.<sup>3</sup>

The prime criticism of the Wassenaar Arrangement is that it is voluntary, providing little incentive for reporting or adherence. "Wassenaar was a sell out," said Michael Maloof. "It's so loose it won't control arms. The Russians worked very hard to undermine the agreement, and we capitulated by allowing national discretion. We need to renegotiate with new enforcement and penalties."<sup>4</sup> In fact, some members fail to comply with many of the notification requirements. They have also failed to agree on which states are of more concern, or how arms sales will affect the stability of a region. Finally, some of the major arms suppliers, such as Israel, China, and South Africa are not members, making global regulation nearly impossible.<sup>5</sup>

The Wassenaar Arrangement, while almost useless for enforcement purposes, is a beginning for a possible stronger regime in the future. It also began the painstaking task of opening international dialogue on the contentious issue of broader arms controls.

### **Defense Capabilities Initiative**

The Balkans campaign demonstrated that US capabilities far exceed those of its allies, ranging from tactical communications to target identification. The attempt to develop joint standards had not succeeded, but industrial cooperation offered a solution. The DoD began pursuing closer cooperation between US companies and the firms of our



allies, in order to share technology and increase cooperation. It was hoped that with easier access, the allies would be encouraged to increase their capabilities and interoperability, and markets would be kept open as industry consolidates.<sup>6</sup> The Defense Capabilities Initiative arose from these efforts.

The US and its NATO allies identified five improvement areas if the allies are to function effectively with the US in coalition operations.<sup>7</sup> They are:

1. Deployability and mobility
2. Sustainability and logistics
3. Effective engagement
4. Survivability of forces and infrastructure
5. Communications, command, and control

To facilitate the transformation, four critical areas have been identified. First, ESDP, DCI, and NATO goals must harmonize to eliminate confusion and duplication. Second, command, control, and communications architectures must be open to ensure seamless integration between allied systems. Third, and perhaps most important, European governments must increase spending on procurement and R&D.

“With R&D expenditures in the United States exceeding those in all of Europe combined by a factor of approximately 3-to-1 annually, a growing gap between technologies and capabilities in the United States and those in Europe could pose a threat to alliance interoperability and to transatlantic partnership,” said Vance Coffman.<sup>8</sup> Fortunately, close observers believe that British Prime Minister Blair and German Chancellor Schroeder have staked their political reputations on developing a European Defense Capability, and therefore they predict European budgets will begin to rise to avoid a costly embarrassment.

Without an increase in spending, Europeans have little hope of maintaining the capabilities gap, let alone closing it. Below is just an example of some of the systems that have been identified for possible upgrades.<sup>9</sup>

All NATO: AEGIS, HARM, Hellfire, Sidewinder, AMRAAM, C-17, C-130J, JDAM, JSOW, LANTIRN, P-3C upgrade, Harpoon, PGM upgrades, PAVEWAY, SINGARS, F-16 reconnaissance pods and ground systems

Germany: MEADS, Patriot PAC-3, Peace Peek

Greece: AGM-142, Have Lite and F-16 integration

Italy: JSF, PAVEWAY II, Production, MEADS

Turkey: AEW&C aircraft and systems integration, JSF, AN/MPQ-64 SENTINEL

Fourth, the US and European governments must improve their coordination and cooperation when planning for force improvements. The US is particularly notorious for its unilateral attitude. For instance, the Quadrennial Defense Review, which is currently in progress, will capture the requirements of the services for future capabilities. The services, which prefer to act autonomously, have neither seriously looked at European technology nor coordinated with allied services on future strategic plans.<sup>10</sup>

While many doubt that the Europeans will meet their goals under DCI, Gen Vyvyan offers a ray of hope. In past years, NATO provided a defense program questionnaire, which asked members what capabilities they would add to the alliance. Though the countries attempted to comply with their promised capabilities, the goals were rarely met. DCI is different, because compliance of the members will be reviewed at the EU-political level, rather than the NATO-military level. The additional visibility may provide the momentum to fund the targeted capabilities.<sup>11</sup>

## **Declaration of Principles**

In February 2000, Secretary of Defense William Cohen, and British Minister of Defense, Geoff Hoon, signed the “Declaration of Principles for Defense Equipment and Industrial Cooperation.” The move was a DoD sponsored initiative to force the development of a license-free, “Canada-like” exemption with key allies. The five pillars that they agreed upon are as follows:<sup>12</sup>

1. Congruent and reciprocal industrial security policies and procedures
2. Congruent and reciprocal export control processes
3. Cooperative relationships in law enforcement
4. Close cooperation in intelligence sharing on matters of counterintelligence, economic espionage, and industrial security and export control violations
5. Willingness to enter into binding agreements establishing reciprocal access to each other’s markets

The DoD had grown impatient waiting for the State Department to loosen export controls, and predictably, on word of the announcement, the DoS balked.<sup>13</sup> By law, only DoS can negotiate trade agreements, so the declaration had no legally binding authority.<sup>14</sup> The move did, nevertheless, galvanize executive support for taking the next step of a formalized trade agreement. France was also offended by the announcement, believing that the US was trying to divide France, Germany, and Britain, who had signed the Framework Agreement in July 2000. If there were to be any negotiations, France felt they should be conducted with the LOI signatories.<sup>15</sup>

Congress was the third voice to cast doubt on the logic of the declaration. Their immediate concern was the loss of technology.<sup>16</sup> Since the declaration may require congressional legislation, these concerns had the potential of abruptly halting the process. In fact, Reps. Gilman (R-NY) and Gejdenson (D-CT), along with Senators Helms (R-

NC) and Biden (D-DE) sent a letter to Secretary of State Albright justifying the current system.<sup>17</sup>

Most interviewees, however, feel that the Declaration of Principles was a bold move by the DoD to force the export control issue to the executive branch. The National Security Council (NSC) formalized the president's decision in "Guidance on International Traffic in Arms Regulations (ITAR) Exemption Decision," Memorandum for the National Security Council, June 17, 2000: "The United States Government is prepared to provide the government of all qualified treaty allies an exemption from certain U.S. munitions export licensing requirements. To qualify for the new exemption, a country must demonstrate that it has an effective export control system, measured against strict U.S. standards, and sign a binding, bilateral export control agreement...We will start this process with the United Kingdom and Australia because of the quality of their existing export control systems and their close defense industrial collaboration with the United States."<sup>18</sup>

### **Defense Trade and Security Initiative**

The culmination of the DCI and Declaration of Principles machinations was the Defense Trade and Security Initiative. In May 2000, Secretary Cohen sent Secretary Albright a letter saying:

I have found that DoD is spending too much effort controlling low risk items destined for low risk destinations at the expense of devoting more time to high-risk cases and issues. For example, nearly a third of the export license requests are destined for the UK and Australia, two historical allies with whom we share the most sensitive information and technology. Under current ITAR rules, my staff is processing these requests with the same approach that they give to export license requests destined for more problematic nations. Clearly, we could free up substantial resources to focus on more sensitive cases if we could agree

upon an approach that is appropriate for the lesser risk associated with exports to the UK and Australia of unclassified information and equipment of low sensitivity.<sup>19</sup>

That same month, Secretary Albright announced DTSI to the world. DTSI is a compilation of 17 separate initiatives, falling into the categories of export controls, industrial security, intelligence, law enforcement, and trade reciprocity. The most contentious aspect for liberals and conservatives are the four new licensing vehicles.

The first vehicle is the Major Program License, which provides for “a range of export activities between a single registered U.S. exporter and a foreign company or government including integration, co-development, or production.”<sup>20</sup> JSF could fall under this license, if the winning prime contractor chooses to apply.

DoS defines the second option, the Major Program License, as a “comprehensive authorization for all aspects of a transaction for a foreign government’s purchase of a U.S. major weapons system for the life of the project.”<sup>21</sup> Again, this license only applies to NATO, Japan, and Australia. Lockheed Martin might consider a Program License if they are selected to supply F-16s to Poland.

Third is the Global Project Authorization, which allows “a U.S. exporter to carry out broad range of activities associated with a cooperative government-to-government program or DOD-MOD [Ministry of Defense] MOU [Memorandum of Understanding].”<sup>22</sup> This license allows the US government, through a MOU, to set the basic parameters of the program with any country, not just NATO. Cooperative programs could include, “research, development, production, test, and evaluation of defense systems, subsystems, or technologies.”<sup>23</sup>

The fourth authorization covers “tech data needed to explore possible opportunities for acquisition, joint ventures, mergers, teaming arrangements.”<sup>24</sup> Though US and

foreign contractors must still seek permission to discuss joint ventures, they are no longer hamstrung by the requirement to delineate the details of each overture prior to beginning discussions.

DTSI also forces DoD, DoS, and DoC towards an electronic system to pass information on licenses more rapidly, and initiative 17 calls for the government to review one quarter of the USML every year. Finally, the DoD and DoS have worked to streamline their processes by distributing fewer licenses and speeding up the review process.<sup>25</sup>

Steve Brosnan made the analogy that now the State Department is working with industry to draw a box around a particular venture. Everything inside the box is industry's responsibility. If things change, and they have to step outside the box, then they can come back for an amendment to the license. It pushes more responsibility and planning onto to industry's shoulders.<sup>26</sup>

## **Issues**

Due to the scope and depth of DTSI, it has drawn considerable criticism from both sides of the debate. Nonproliferationists fear the loss of control while liberalists believe it fails to address the underlying problems with the system.

**Proliferation.** The “Canada-like” exemption of DTSI, in which signatories are allowed relatively unobstructed trade of unclassified defense goods, concerns non-proliferationists. They believe without a paper trail and regular review, compliance will be difficult to evaluate. It could provide a conduit into the free-trading environment of the EU, and once there, technologies could proliferate to “questionable states.”

To address those concerns, SECDEF Cohen wrote, “Some have suggested the ITAR exemption would eliminate all US Government control over exports that would no longer require licensing. That is not the case. In fact, the proposal would require legally binding agreements with the UK and Australia on tightening third party retransfer controls and closure of other gaps. This strengthened retransfer control would extend to UK and Australian end-users for all US Munitions List items, not only items entering the UK and Australia under the proposed exemption. Our proposal would dramatically improve our control of third-party re-transfer, further enhancing national security.”<sup>27</sup>

While it is easy to offer assurances, the proof will be in the implementation. Unfortunately, if the intelligence community is unprepared to adequately measure compliance, as Mr. Maloof has suggested, verification will be difficult.

**Working the Margins.** Many feel that while DTSI is a step in the right direction, it merely circumvents a cumbersome and antiquated system.<sup>28</sup> It also applies to only unclassified technology, and it does nothing to remove congressional oversight through the Export Control Act. Moreover, it fails to address multinational companies and organizations, which are the emerging trend in Europe. Mike Jenner countered that while the benefits are quite narrow, they came in the right areas, such as sharing information. He optimistically believes that while DTSI is not the optimum solution, it could be expanded as it gains momentum and proves its worth.<sup>29</sup>

Martha Harris goes further to say that as long as DoD is not ready to take on the challenge of creating a new framework for the munitions list, then the only other choice is to work at the margins. “The Cold War is gone, but no one is ready to do the detailed work of reviewing technologies. There needs to be a process that takes technical issues

and translates them into policy language.” When she was working at DoS she remembers that DoD would come in with proposals to change the system, but they were always “half-baked and incomplete.” She stressed that looking at organizational issues to change export controls will not go far. “There are structural issues that orient the direction an organization is headed.” She candidly concludes, “No one at the DoD has the courage to make the call.”<sup>30</sup>

**One-Way Agreement.** Another area of concern is that DTSI is essentially a one-way agreement for increased exports to Europe. Europeans are upset that in order to qualify, they must adjust their laws and policies to conform to American standards, with no compromise from the US side. The DoS’s DTSI Fact Sheet confirms that the ITAR exemption is for countries that “adopt and demonstrate export controls and technology security systems that are comparable in scope and effectiveness to those of the United States.”<sup>31</sup> Europeans lament that 50% of EU defense equipment comes from the US, as opposed to 3% coming from the EU to the US. Even when the US does import, it insists that the goods are manufactured in America.<sup>32</sup>

Some of this concern can be passed off to the large US R&D budget and economy of scale used in production. Additionally, when looking at the overall trade balance between the US and Europe, low European defense sales are more than recouped by overall exports. In 1999, the trade imbalance with the US favored the Europeans by nearly \$53B, while the US exported a worldwide total of only \$14.6B in armaments.<sup>33</sup> Still, these rationalizations fail to answer why DTSI is oriented towards US exports and not imports.



Furthermore, Jim Swanson points out that the issue of controls is not simply a matter of changing regulations, it goes back to colonialism, alliances, and past friendships. “Europeans have effective controls and enforcement, but they have different policies with whom they export.”<sup>34</sup> For instance, the UK trades extensively with India and Cuba, but sells little to Taiwan, while the opposite is true for the US.

Alex Ashbourne captured European sentiment regarding Congress as “committed to protecting its defense industry and its domestic defense market—an attitude not conducive to building transatlantic bridges...it [ITAR] is little more than a mechanism for US protectionism. And without significant reform, the ITAR will actively deter the creation of stronger transatlantic defense industrial relationship.”<sup>35</sup> Dick Bitzinger further warns, “Governments and defense firms that refuse to globalize their arms development and production activities eventually could find themselves closed off to critical overseas markets, technologies, and resources.”<sup>36</sup>

Many of the US experts agreed. Michael Dickson stated, “The allies tend to see this as a divide and conquer ploy by the US to get them to stop selling in certain countries, so the US can control the arms market. The US gives a little, but gains a lot.”<sup>37</sup> Martha Harris reasoned, “Asking the allies to adopt our export control system is a non-starter. Why should they compromise if we don’t have a strategic plan?”<sup>38</sup> And William Reinch added, “We don’t need US standards, lesser requirements will do.”<sup>39</sup>

On the more conservative side, Edward Levine countered, “Once they [the Europeans] do DTSL, they’ll see they can still compete. Economic benefit can be gained through value-added work, not competition.”<sup>40</sup> A final source that asked for anonymity said that while the UK’s laws are comparable, there was considerable concern at the

beginning of DTSI negotiations, because it was believed that export law compliance at lower levels may have been neglected. He added, though, that DTSI is now forcing compliance at all levels.

**Bilateral Negotiations.** With the initial proposal of loosening restrictions to the UK and Australia came a third concern about the bilateral nature of the agreements. William Reinch believes the flaw in the DoD logic is trying to create “critical mass” to stop Fortress Europe with only select countries. Unfortunately, “The DoD has failed to find enough suitable countries...only the UK can meet the requirements, and even the UK is questionable, because they do not want to be shunned by the EU for working with the Americans.”<sup>41</sup>

In truth, the EU is already upset that the US has chosen to work with a single member country, rather than opening discussions with the multinational organization. They are also concerned that if the UK complies with the US’s stricter standards, it will fall out of step with the rest of the EU countries.<sup>42</sup> In particular, the EU has an agreement to allow the free flow of labor across borders. The US, on the other hand, only allows individuals from the partnering country to work in a factory that is producing export-controlled goods. The “ITAR exemption is for indigenous use only.”<sup>43</sup>

As to the bilateral nature of negotiations, there were a number of opinions from the experts. Jim Swanson felt that after the UK and Australian precedent had been set, multinational discussion should logically follow.<sup>44</sup> Michael Dickson disagreed, insisting bilateral talks were the only way to proceed, because of the strenuous process in working with countries to “level-up” to US standards.<sup>45</sup> Steve Brosnan admitted that bi-lateral work will continue, but he believes that the way of the future must be toward multi-

lateralism. “Our dominance of the market can push others to adopt our process, and since people want to work with us, they’ll come on board.”<sup>46</sup>

Finally, Edward Levine summed up a congressional perspective, stating, “[we] like NATO, but the allies are still working with potential enemies and human rights violators. If Europeans said they will work together on foreign policy, then we will respect differing views and policies.” Congress is willing to enter into discussions on a multilateral basis with the Europeans, but they need to speak with one voice. Until then, there will be a degree of mistrust.<sup>47</sup>

**DoS Commitment.** US industry has concerns for different reasons. They fear they will be drawn into a time-consuming process in applying for a broad license that will waste valuable time that should have been used to close the deal. They complain that there is no precedent and little information, so they would rather use the old system.<sup>48</sup> Jeff Bialos agrees that companies are not applying for broad licenses, because they are not getting enough information. “DoS can kill this program just by slow rolling it.”<sup>49</sup> Mike Jenner, who noticed a significant shift in the atmosphere of the negotiations when DoS took over, also echoed that sentiment. He insisted that the Security Assistance Act of 2000 had removed DoS’s negotiating flexibility.<sup>50</sup>

“It’s an entrenched bureaucracy with a system designed to protect technologies—a monolith,” said Al Volkman.<sup>51</sup> Rick Kirkland added that DoS will resist, because it is a turf battle, and they want the leverage to manipulate the international community. He said there needs to be a test case, and perhaps that could be JSF. He commented that it appeared companies were “slow rolled” by DTC, but he attributed it to a lack of

manning, rather than cultural resistance. “They need people and process to make it work.”<sup>52</sup>

From inside the DoS, the view of DTSI appears very different. Amy Coletta and Steve Brosnan are integrally involved in working with the UK in making DTSI a reality. Brosnan and Coletta both insisted that the government had a vested interest. “The impression of resistance is caused by a lack of manning. DoS is one hundred percent behind DTSI.”<sup>53</sup> Jim Swanson agreed that if there were any resistance, it would be overcome, because “Congress, and DoS and DoD leadership will force DTSI to work.”<sup>54</sup>

Michael Dickson offered a contrary perspective. He felt that although the regulatory steps were in place, he was not sure if DTSI was worthwhile. He believes firms have not tried to use the initiatives, because they are concerned about the liability and the advanced planning involved. Now that more responsibility is shifted to industry, they could be held liable for a much broader set of circumstances than before. Dickson also felt the program was confusing industry. Although DTC was willing to work with companies, it was still industry’s duty to come up with a comprehensive plan. When asked about the length of time involved in approving the broader licenses, he said that the delay should not increase significantly, since DTC would follow the same methodology as used in current license reviews.<sup>55</sup>

Finally, it should be noted that both the DoS and the DoD have been making progress in streamlining their own internal processes to improve the speed and quality of license application reviews. In 1994, DoS developed an electronic system so that industry would no longer be required to submit their license applications using paper. Unfortunately, the system did not have the tools to accept background documents

electronically, which is often a critical part of the application. To correct the deficiency, DoS is now testing a system that will allow all information to be received via computer, making the internal review faster and more effective, and allowing them to transmit and coordinate the information instantaneously with other Departments.<sup>56</sup> They have also dramatically cut back on the amount of referrals to other Departments.

David Oliver took DoD's tardiness on personally. By lowering decisions levels, minimizing additional reviews, doubling the licensing officers and technical staff, and accelerating the timetable, he slashed processing time. In January 1999, there were 600 applications that took more than 60 days to review, with the average standing at 45 days. In April 2000, there were no requests over 60 days, and the average time to process a license application was 12 days. As was noted previously, Oliver also doubled personnel at DoD and on loan to DTC.<sup>57</sup>

**Other Alternatives.** Speaking as one who is intimately familiar with the export control process, Michael Dickson felt that DTSI was a lot of hype for something that has been available for years. "It's not that difficult to get a license; many are handled in a just a few days." Additionally, DTC informed the DoD several years ago that if the DoD would provide a list of products, countries, and end-users, DTC would exempt them from license requirements. DoD never developed the list.<sup>58</sup>

Dickson believes it would be much more useful to produce a specific list than go through exhausting negotiations for a blanket exemption. "There will be products and areas that a country conforms to our way of business and places where they won't. Exemptions would be much easier to handle than the situations a global license will create."<sup>59</sup> A DoS fact sheet confirms that the DoD has not used its authority outlined in

the ITAR regulations for the export exemptions to support interoperability, coalition warfighting, and other national security objectives.<sup>60</sup>

## **Joint Programs**

Joint programs have long been the recipients for harsh criticism, and perhaps rightly so. Take the Tornado, please. Joint programs like the Tornado fighter aircraft, are built on compromising everything from requirements to production and expertise. For instance, Canada, Belgium, the Netherlands, the UK, Italy, and West Germany agreed to build a fighter. Eventually, Belgium, the Netherlands, and Canada withdrew, because they saw no reason to spend money on an aircraft that was more expensive than the US alternative and had lost much of its capability due to requirements compromises. When the time came to produce the Tornado, the UK was the logical choice to design and manufacture the airframe and wings, because they had more expertise. Germany, however, contributed more money, so they did the majority of the work.<sup>61</sup>

As described before, joint programs also usually require offsets to gain domestic support and obtain technology. The cost of offsets is typically born by the US government, which admits that offsets are “economically inefficient and market distorting.” Inefficiencies are rationalized as a method of promoting industry and coalition warfare.<sup>62</sup>

Conversely, to conduct a major program requires access to technology and manufacturing that often does not reside in the US. Rick Kirkland points out, “you can’t do a major program in the US with US-only parts.” David Quinn, who worked Turkish FMS programs in the US Air Force before joining the State Department, said that Turkey

is the only manufacturer of a particular component for the F-16.<sup>63</sup> Edward Levine added, “We’re starting to see deals where Europeans have the advanced tech.”<sup>64</sup>

The JSF is the DoD’s poster child for joint programs of the future. Instead of unwilling participants who are pushed together by politicians and bureaucrats, JSF is an economically motivated program led by industry. The UK leads a host of participating countries by contributing 8% of the EMD budget or \$25B. This “Level One” status allows the UK to have a significant impact on the capabilities of the aircraft, to include placing ten individuals on program office technical teams and a seat on the source selection board. Italy, Turkey, and the Netherlands may sign on at “Level Two” status for \$1.2B, which places five of their countrymen on the technical team of their choice. Denmark, Norway, Germany, Japan, Switzerland, Greece, Canada, New Zealand, Finland, and others are considering joining the team as well, and most prospective partners have already contributed funds.<sup>65</sup>

One requirement for participation is that all countries must agree to an export control plan, and the contractors involved have tight restrictions on the transfer of technology. The multinational industry teams are in the competition phase, and they are lead by the Boeing and Lockheed prime contractors. BAe is partnered with both sides, and EADS may even join the team.<sup>66</sup>

While there will be compromises and headaches with a multinational teaming arrangement, this program seems destined for successes, because it has followed David Oliver’s prescription of aligning capitalism with national policies. “Fortresses could separate allies, but capitalism will bring them together. It builds trust and cohesion.”<sup>67</sup>

## Notes

<sup>1</sup> Markusen, 418-419.

<sup>2</sup> Cupitt, 200-201.

<sup>3</sup> “The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies,” Fact Sheet. *Arms Control Association Website*, n.p.; on line. Internet, 28 February 2001, available from <http://www.armscontrol.org/FACTS/wass00.html>.

<sup>4</sup> Maloof.

<sup>5</sup> Drozdiak, 2.

<sup>6</sup> Bialos, “Re-inventing Defense Export Controls: A National Security Imperative.”

<sup>7</sup> “United States Defense Trade Security Initiative Fact Sheet, 9.

<sup>8</sup> Coffman, 5.

<sup>9</sup> Bodner, 12-16.

<sup>10</sup> Adams, “The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities,” 14-15. The DoD does have a Foreign Comparative Testing Program, which evaluates foreign non-developmental systems, but its use appears to be limited. See <http://classic.deskbook.osd.mil/reflib/maf/619fc/004/619fc004doc.htm>.

<sup>11</sup> Vyvyan.

<sup>12</sup> Adams, “The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities,” 26.

<sup>13</sup> Jenner.

<sup>14</sup> Adams, “The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities,” 27.

<sup>15</sup> Ashbourne, *Opening the US Defense Market*, 14.

<sup>16</sup> Adams, “The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities,” 27.

<sup>17</sup> *Ibid.*, 28.

<sup>18</sup> National Security Council, memorandum for record, subject: Guidance on International Traffic in Arms Regulations (ITAR) Exemption Decision, 17 June 2000, 1.

<sup>19</sup> William Cohen, Secretary of Defense to Madeline Albright, Secretary of State, letter, subject: Export controls, 5 May 2000, 1.

<sup>20</sup> United States Defense Trade Security Initiative Fact Sheet, 1.

<sup>21</sup> *Ibid.*, 2.

<sup>22</sup> *Ibid.*, 4.

<sup>23</sup> *Ibid.*

<sup>24</sup> *Ibid.*, 6.

<sup>25</sup> Bialos, “Re-inventing Defense Export Controls: A National Security Imperative.”

<sup>26</sup> Coletta.

<sup>27</sup> Cohen, 1.

<sup>28</sup> Zakheim, 43.

<sup>29</sup> Jenner.

<sup>30</sup> Harris.

<sup>31</sup> United States Defense Trade Security Initiative Fact Sheet, 13.

<sup>32</sup> Ashbourne, *Opening the US Defense Market*, 11.



## Notes

<sup>33</sup> “U.S. Total Exports to Individual Countries” and “U.S. Trade in Services by Major Category,” tables, *Department of Commerce*, n.p.; on line. Internet, 3 April 2001, available from <http://www.ita.doc.gov/td/industry/otea/usfth/aggregate/H99t06.txt> and <http://www.ita.doc.gov/td/industry/otea/usfth/aggregate/H99t02.txt>.

<sup>34</sup> Jim Swanson, Technology Security Policy Division, Defense Threat Reduction Agency, interviewed by author, 12 January 2001.

<sup>35</sup> Ibid., 8.

<sup>36</sup> Bitzinger, “Globalization in the Post-Cold War Defense Industry: Challenges and Opportunities,” 321.

<sup>37</sup> Dickson.

<sup>38</sup> Harris.

<sup>39</sup> Reinsch.

<sup>40</sup> Levine.

<sup>41</sup> Reinsch.

<sup>42</sup> Ashbourne, *Opening the US Defense Market*, 8.

<sup>43</sup> Coletta.

<sup>44</sup> Swanson.

<sup>45</sup> Dickson.

<sup>46</sup> Colletta.

<sup>47</sup> Levine.

<sup>48</sup> Hofgard.

<sup>49</sup> Bialos interview.

<sup>50</sup> Jenner.

<sup>51</sup> Volkman.

<sup>52</sup> Kirkland.

<sup>53</sup> Coletta.

<sup>54</sup> Swanson.

<sup>55</sup> Dickson.

<sup>56</sup> United States Defense Trade Security Initiative Fact Sheet, 11.

<sup>57</sup> Adams, “The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities,” 24, and Oliver.

<sup>58</sup> Dickson.

<sup>59</sup> Ibid.

<sup>60</sup> United States Defense Trade Security Initiative Fact Sheet, 16.

<sup>61</sup> Zakheim, 5.

<sup>62</sup> *Offsets in Defense Trade: An Annual Report to Congress*, report (Washington, D.C.: Office of Strategic Industries and Economic Security, Department of Commerce), n.p.; on line. Internet, 17 November 2000, available from, <http://www.doc-bxa.bmpcoe.org/odtir.html>.

<sup>63</sup> Quinn.

<sup>64</sup> Levine.

<sup>65</sup> Greg Schneider, “Allies Enlisted to Pay for Jet,” *The Washington Post*, 11 March 2001, A19.

<sup>66</sup> Ashbourne interview.

## Notes

<sup>67</sup> Oliver.

## Chapter 6

### The Next Step

#### Reconstruct the Export Licensing Process

*Clinging to a failing policy of export controls has undesirable consequences beyond self-delusion. It can limit the special influence the US might otherwise accrue as a global provider and supporter of military equipment and service. This obviously includes useful knowledge of, and access to, competitor military systems that only the supplier would have, and the ability to withhold training, spares, and support. Equally obvious, shutting US companies out of markets served instead by foreign firms will weaken the US commercial advanced technology and defense sectors upon which US economic security and military–technical advantage depend.”<sup>1</sup>*

—Defense Science Board, *Task Force on Globalization and Security*

To retreat to the days of the Cold War, while oddly comfortable, is no longer an option. The collapse of the Cold War system of checks and balances is a major reason for the acceleration of globalism in the first place. The US was perhaps the first nation to grasp the commercial ramifications of the changes taking place. It solidified its position as the world’s sole hyper-power with eight years of economic growth, several highly successful military engagements, and expansion into new realms of global socio-political influence.

National security strategy in times of peace is not as flexible and quick reacting as the commercial market but, since many commercial ventures fail, perhaps slow evolution is appropriate. The time has come for further evolution, and it focuses on defense trade policy. Though liberalization makes the US more dependent on allies, it embraces an unstoppable wave of globalism. Paradoxically, that same interdependence gives the US the ability to influence the policies and attitudes in other countries in new and powerful ways. It also takes advantage of the reality of scarce resources, promotes American economic, military, and political strength abroad, and provides access to foreign technologies, resources, and markets.

This is not to imply that the US should leap into unbridled liberalization at the expense of national security. This paper has presented rational arguments on both sides of the debate. To say a compromise can be reached implies that possible outcomes involve a less than optimum solution. Hopefully, there is a solution that provides for the protection of technology and jobs while allowing allies and industry to benefit.

### **Overhaul The Munitions List**

The first step in changing export controls is to take on the USML. Martha Harris stated that the DoD has not disciplined itself on what needs to be controlled. She also questions whether the DoD has the “courage” to take on an entirely new list based on how technology and integration knowledge affects warfighting capability and turns that technical balance into actionable policy.<sup>2</sup> Perhaps she is correct that the DoD has shied away. Whether it was because they lacked the courage, or they were slowly softening DoS with incremental steps is uncertain, but the time to act is now. The new

administration, with its security savvy appointees in DoS and DoD, has the horsepower to make it happen.

**Control Key Technologies.** “Technology diffusion to those few states with a motivation to arm and the economic resources to do so will accelerate as weapons and militarily relevant technologies are moved rapidly and routinely across national borders in response to increasingly commercial rather than security calculations. For such militarily related technologies as the Global Positioning System, satellite imagery, and communications, technological superiority will be difficult to maintain for very long.”<sup>3</sup> Leading intelligence experts inside and outside of government agree that it will become difficult to control all but the most closely guarded systems. Attempting to regulate a large list is not only futile, but it undermines efforts to protect the truly critical technology.

“We should control vital technologies, but we’ve gotten wrapped on commercially available equipment. We treat generators the way we treat stealth.” For more concrete reforms, Alex Ashbourne suggests that by eliminating the obsolete and commercially available items, the list could be cut in half.<sup>4</sup> A CATO Institute trade policy paper further suggested that 15% of the list is comprised of systems such as mechanical, electrical, hydraulic, pneumatic, and fuel system items for land, sea and air combat vehicles that are readily available to any buyer.<sup>5</sup>

It's true the commercial world is driving defense industry investment, but there are exceptions. By the very nature of the military mission, there will be some technologies that will be required, regardless of what is commercially available. Certain processes, coatings, exotic sensors, or arcane electronics must be closely guarded, as these are

crown jewels for US defense. The DSB concurred, recommending the development of a small list of systems that were only possessed by the US, and then determining how they should be protected. If the systems were already available through other sources, take them off the list.<sup>6</sup>

Guarding more broadly available technologies, which could someday threaten US interests is a noble goal. Unfortunately, the demand side will overwhelm enforcement efforts and resources, which could be put to better use. As Col Thompson stated, “Unethical arms dealers are no better than drug dealers. You can always find a buyer.”<sup>7</sup> Attacking only the supply side of drugs will simply shift the production sources to other locations—so it is with armaments. Ceasing production of components that are available from other sources will merely shift the market share to those sources.

Alternatively, if the US is the only producer, control can and should be exerted, but this is not as black and white as it may appear. Many US-made defense products are superior to versions produced abroad. For these “gray area” components, which provide clearly superior military capability, the end use and user must be scrutinized on a case-by-case basis. A good example was the forced Chinese compromise to settle for older generation Russian airborne warning aircraft over the more sophisticated Israeli version.

Equally important, foreign policy ramifications should be considered before approving a license. Though certain technologies are widely available, it may be in the US’s best interest to slow their proliferation through a coordinated international effort. For cases in which the US cannot stop proliferation, it could still be in the nations interest to take the moral high ground in not encouraging the build up of an aggressive state’s arsenal. However, instead of taking a “technology perspective” in assessing license

applications—which increases the size of the list exponentially—reviewers should focus on an end-user framework.

**Control Integration Knowledge.** Admiral William Owens, former Vice Chairman of the Joint Chiefs of Staff, is seen by many as a defense visionary. In a recent speech he advocated increasing spending on command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) from 2% of the total defense budget to 20%. His reasoning is that the services have not taken advantage of the situational awareness that the information technology revolution can provide. While a good portion of the spending increase would go towards hardware, much would be spent on creative ways of adapting cutting-edge technology to meet the needs of the military—this is the integration knowledge that must be protected.<sup>8</sup>

The DSB said, “...the United States will derive less military advantage from protecting technology and more from a superior ability to translate globally available technology into dominant military capability...the highest priority for protection is how the systems are integrated, not the particular technology.”<sup>9</sup> Rick Kirkland adds, “We need to look at the basic assumptions. Do we need to prevent small countries from getting F-16s? The real edge the US has is in systems integration, service, and manufacture.”<sup>10</sup>

Unfortunately, preserving integration knowledge alone will be insufficient to maintain US military supremacy. By focusing solely on this expertise, the US would provide the enemy with a single point of failure to exploit. On the other hand, retaining that expertise, along with controlling key technologies and funding significant R&D and procurement budgets, will provide the edge the DoD requires. It all begins with the

DoD's willingness and commitment to lead a multi-departmental team in determining what truly constitutes a key technology, process, or talent.

### **Increase Resources**

In another departure from the status quo, Admiral Owens recommends cutting the DoD budget and providing those savings to DoS to make up for the enormous budget cuts incurred since the fall of the Berlin Wall. While this may be too radical for even the most ardent reformer in the DoD, there could be a compromise.

The largest obstacle facing DTC is manpower. Processing licenses, implementing DTSI, and opening negotiations with new countries all takes time and manpower. DoS has allowed DTC to wither, while money and manpower were focused on more core issues of the State Department. It is unlikely that this mindset is about to change soon, since Congress was recently forced to step in and provide personnel positions and an increased grade structure to DTC.

The DoD should grasp the opportunity to make a lasting contribution to the licensing process and goodwill between the departments by augmenting DTC personnel. There has always been a personnel exchange program between DoS and DoD. Not until 1990, however, did DTC receive any people. They originally obtained six officers, but that number was quickly cut to four in following years. When DTSI sprang to life, David Oliver promised increasing the exchange officers to eight. Six have already been provided, with two more on the way—DTC is ecstatic. “They are very bright and diligent. They get the toughest cases and bring a real-world perspective, along with a practical knowledge of Pentagon workings.”<sup>11</sup>



Although the increase in manning support is a useful gesture, it is like throwing a bucket of water on a burning building, because DTC continues to be drastically undermanned. If the DoD wants to truly affect change, it must significantly increase its augmentation of DTC staff. By doubling DTC's licensing officers with Defense manpower, the DoD will not only reap the benefits of accurate and timely license processing, it will provide DoD with leverage to determine how the licensing process evolves and is implemented.

This does not let DoS off the hook. They must support DTC with more personnel, a higher rank structure, and more visibility. Export controls are essential to the propagation of US political, military, and economic goals. If DoS is not prepared to live up to their commitment, their role should be divided between DoD and DoC. This is not a position advocated by the author, but DoS's negligence is an unacceptable solution.

DoS must also consider a change in management. The current leadership of DTC must be rewarded for their service and provided opportunities to broaden their careers. While they have been effective in implementing the Cold War export regime, the office has not kept up with the times. This is not a criticism borne alone, since congress and DoS management have failed to instigate change. As Jim Durso counseled, an effective organization has the responsibility to assess its strengths and weaknesses, and make changes in order to improve its processes. If those changes cannot be instigated without higher authority, it is the organization's duty to notify senior management. It appears that has not happened at DTC.<sup>12</sup>

## **Reduce Congressional Review**

Congress and its staff receive an ample supply of criticism for failing to provide value added. Congress, nonetheless, plays a vital role in the export process by acting as the only place where the three instruments of power come together in a bi-partisan framework. Though well meaning, they have added significant delays.

Currently, Congress must be notified of all “major defense equipment” sales totaling over \$14M or defense articles and services not defined as “major defense equipment” over \$50M.<sup>13</sup> Unfortunately, attempting to notify Congress last year was difficult since they were only in session for 78 days. There is also a considerable lag added when staffers must be notified weeks before a package is submitted—if they allow it to be submitted at all.<sup>14</sup>

A review should be conducted to determine what programs and dollar amounts justify congressional review, which require only staff review, and those requiring no review. The critical role played by Congress in bringing together the economic, military, and political instruments cannot be minimized. Yet, that power must not be squandered by applying it to cases that would be more appropriately delegated to lower levels within the government.

## **Assess Enforcement Effectiveness**

This paper has not attempted to delve into the intelligence world. Of the over thirty people interviewed, very few had much to say about enforcement, nor did the literature reviewed focus on that component. One of the few interviewees who was intimately familiar with the enforcement regime, Michael Maloof, was highly critical. Michael Dickson, the other individual who works closely with the intelligence community, while

not criticizing the community, could not answer some of Mr. Maloof concerns, such as the assessment of the aggregation of technologies.

It could be that the intelligence community is adequately monitoring and affecting the flow of legal and illegal exports, or it could be that they are focused primarily on WMD proliferation, and have neglected “lesser technologies.” Even intelligence experts reported, “Export regimes and sanctions will be difficult to manage and less effective in controlling arms and weapons technology transfers.”<sup>15</sup> The job is not getting easier, so even if the US has intelligence networks and enforcement officers comparable to the Cold War, new methods of collection, deception, and enforcement are required. It is therefore recommended that an independent review take place to determine the strengths and weaknesses of current enforcement operations.

Additionally, a tool that is sorely needed is an electronic method for sharing information between agencies. A system will be in place shortly that will allow DoS, DoD, and DoC to share basic licensing application and background information in order to expedite processing. Much more could be gained from new information technologies with a little vision. Enforcement, intelligence, and licensing communities should integrate their systems of passing information on traffic flows, point of entry scans, foreign country reports, and a host of other useful information to make the license processing more effective. Currently, the government is paying a lot of money to implement a 90s solution while expecting 2001 results.

### **Stop Protecting Industry**

The existence of defense-unique industries during the last half-century has conditioned American leaders to think such a “defense industrial base” and the associated

special set of acquisition rules, regulations, standards, and requirement is natural. In fact, the continued segregation of defense and commercial activities produced by the existing acquisition process will no longer stand up to the altered defense environment and the changing nature of our national industrial base.<sup>16</sup>

### **Allow Capitalism to Work**

The concept of the industrial base is an evolving notion. No longer are the legions of Soviet tanks ready to storm across Europe, and with this change, so must our ideas of preserving an industrial base. Industry must be allowed to survive on its own merits, not on some subsidized standard that fosters neither competition nor innovation. That perhaps is a bit harsh, but so are the realities of the market place. “The Department of Defense must try to behave like any other commercial buyer: impose few unique contracting regulations, follow best-value criteria, and most of the time accept commercially developed specifications and standards.”<sup>17</sup>

Protecting industry with an export control regime and protectionist politics make it less competitive, less innovative, and less efficient. Contractors may keep up with their heavily subsidized European counterparts, but who is interested in just keeping up? As the world becomes more integrated, and countries adopt best buying practices, protectionism and subsidies become costly for both governments and companies. An efficient US industry will be ready to gain customers and market share, because other than the few countries with large defense industries to protect, most are looking for the best value.

A disdainful reality is that Americans may lose jobs if Congress drops protections, but others will be gained. According to the US Department of Labor, since

1993, 81% of new jobs in industry are above the mean, which indicates that they are better than the jobs they replaced.<sup>18</sup> Additionally, the flow of labor is important to the growth of the economy, because it allows workers to migrate into industries where their talents will be most effectively used. If France wants to keep their farmers employed, and deny those individuals to more productive parts of the economy, it is their right, but it does not make a lot of sense.

A defense industry forced to fight for survival will also be forced to eliminate excess capacity to reduce costs and increase competitiveness. Although there have been huge mergers and acquisitions, much of the Cold War capacity is lying empty, and it is charged as overhead to government programs. Does reducing the capacity put the country at risk in time of war? The DSB task force did find associated risks if there was a loss of suppliers in critical times, but they concluded that they “found none of them new, nor compelling when cast against potential benefits.”<sup>19</sup>

“An open economy also provides additional capital from abroad, lowering domestic interest rates, expanding the nation’s stock of capital, and raising the productivity of American workers. Japanese investment in U.S. auto plants, for example, has raised the productivity of American autoworkers by providing new plants and equipment and introducing new production techniques.”<sup>20</sup> “The world’s most successful economies also turn out to be those with the lowest trade barriers.”<sup>21</sup>

### **Minimize Government Friction**

In interviews with industry members, they unanimously agreed that they would go head-to-head with European companies, with or without reciprocal trading policies. They also agreed that the government’s greatest contribution would be to minimize

interference. The DSB study on maintaining a healthy industry stated, “Exports and greater international partnering with industry in allied and friendly countries strengthen the US defense industry and facilitates interoperability and joint operations with allies”<sup>22</sup>

If the US makes the best product, then prove it; do not subsidize it at the taxpayer’s expense. This recommendation does not mean simply dropping export restrictions and merger controls unilaterally. The US is still the big gorilla in both buying and selling. If Europeans want access, there needs to be concessions on their part. In addition, since coalition operations benefit from Europeans buying American products, it is not unreasonable to have the Departments of State and Defense pursuing an advocacy program to sell US goods and facilitate their transfer.

Finally, and perhaps contradictory to eliminating interference, if the government is the supplier of R&D funds, they should recoup a portion of those funds when industry sells the product to foreign buyers. A tax on exports to allies should be charged, as in the past.<sup>23</sup> An alternate solution would be for the contractor to pay back a portion of government R&D funds, or the government could receive royalties for each piece of equipment sold overseas. Whatever the method, if European governments continue their miserly investment in technology, then the US needs to stop subsidizing their industry.

### **Reassess Merger Requirements**

Foreign capital, technology, manufacturing processes, and commercial diversity are good for the US economy.<sup>24</sup> Foreign-owned firms know that to have access to US markets, they are expected to use US workers for production for US and overseas markets.<sup>25</sup> Instead of resisting this beneficial inevitability, the US government must begin serious discussions with its European counterparts on how to deal with transatlantic

prime contractor mergers in preparation for their impending occurrence. Some experts are predicting that mergers between companies such as Boeing and BAe, Lockheed and EADS, or Thomson and Raytheon could be imminent.

Third party transfers should always be a concern, but current assessments agree that security arrangements have produced a better level of technology control than US wholly owned companies.<sup>26</sup> It is unreasonable to demand that a foreign company buy a US firm, but have no direct control of its operations. Special Security Arrangements, while not the optimum for business, provide a compromise that allows the US to protect its technology while ensuring business will prosper. In addition, with a reduced USML, fewer SSAs should be required, and adherence will be easier to verify.

Though the CFIUS has been criticized for “scaring away” potential FDI, it is a relatively streamlined process for the federal government. All major departments within the government are represented, they work closely with industry, and barring major problems, they have 30 days in which to approve a merger. Industry, in turn, must ensure that they have done their homework prior to submitting a package by coordinating with major players in and out of government. The excuse that companies are hesitant to file, because they fear what an investigation could expose is an endorsement of the process. Companies with something to hide should look elsewhere for their business opportunities. In addition, the merger package is closely guarded, so a fear of leaking confidential information to competitors is unfounded.

### **Encourage A Hub and Spoke Model**

Richard Bitzinger’s vision of the defense industry of the future is a global hub and spoke arrangement, where the defense powerhouses at the hub retain the highest levels of

technology and systems integration capability. The spokes are those countries that fill manufacturing and support roles, supply subcontracting expertise, and innovate in niche areas that contribute to the whole. The defense industrial base is thereby globalized, and more efficient operations are realized.<sup>27</sup> “Nations become more productive through the division of labor, technological progress, investment in physical and human capital, and the reduction of inefficiencies.”<sup>28</sup>

Most European companies and countries that wish to stay in the defense business should be encouraged to select a few technologies in which they can compete. Rick Kirkland gives the example of the Russian swizzle nozzle. The Russians had developed a device to channel aircraft thrust in various directions to provide a vertical take off and landing capability. The system was so reliable that Lockheed’s Skunk Works bought a license to build the nozzle for their JSF contestant.<sup>29</sup>

Other countries have shown resilience in finding alternative uses for their industry. Brazil, who was once a powerhouse in Latin American armaments, has completely privatized their industry. Israel has become a leader in Uninhabited Aerial Vehicles. France is producing competitive night vision equipment.<sup>30</sup> It is not efficient or practical for the US try to maintain all the major technologies necessary for the armaments industry, nor is that capability possessed today. A comprehensive study of the industrial base should be conducted to determine what development manufacturing skills are necessary to retain, how to support that capability, and which countries to team with on critical technologies that are difficult to maintain alone.<sup>31</sup>



## **Support International Cooperation**

“Since it cannot bear every burden, the United States must find new ways to join with other capable and like-minded nations. Where America would not act itself, it retains a responsibility as the leading power to help build effective systems of international collaboration. America must therefore overcome its ambivalence about international institutions and about the strength of its partners, questioning them less and encouraging them more.”<sup>32</sup>

### **Encourage DCI and expand DTSI**

Much has already been said about the value of the Canada-like exemptions for the US's key allies who are willing to “level up” on security and end use restrictions. It promotes interoperability and closes technology gaps, it encourages cohesion with allies, it reduces development and production costs, and it provides access to foreign technology. There is still the danger of tech transfer, but with a reduced USML and tighter enforcement, even the most stringent nonproliferationist might see merit. It is also true that DTSI is a one-way agreement in which the US is forcing its policies on Europe. There may never be a compromise with the French if they want to sell air defense systems to Iraq while the US prowls the no-fly zones, but there may be middle ground to explore.

Perhaps the single most important event in the European psyche at the moment is the development of the European Union. The EU will continue to exist, and although there will be growing pains, it will become stronger. Even security, which until recently was the sole province of the individual states, is being relinquished to the community with collective security and the rapid reaction force. The US must overcome its

insistence on bilateral negotiations and deal with Europeans, as they desire to be treated, on a multilateral level. At this stage, just presenting the Declaration of Principles to the EU body and then moving to bi-lateral negotiations with individual countries may be enough. The current philosophy of ignoring the EU, the LOI, and the Framework Agreement will only serve to antagonize member states and build resistance to the US initiative.

Finally, DoS requires the leeway to negotiate. The Security Assistance Act of 2000 effectively eliminates all opportunities for compromise in addressing the standards and enforcement policies of other countries. This is not to say that the US should back away from its commitment to stringent controls, but without the power to negotiate, opportunities for gaining concessions and trade offs are lost. Congress can still review the agreement before it goes into effect, but it is time to let the foreign policy experts—the State Department—have the flexibility to do their job.

### **Increase DoD Multinational Cooperation**

“Adapt U.S. alliances and other regional mechanisms to a new era in which America’s partners seek greater autonomy and responsibility. The cornerstone of America’s regional policies must be the maintenance and enhancement of existing U.S. alliances and friendships. By strengthening relations with allies and friends, the United States extends both its influence and the zone of peace and stability.”<sup>33</sup>

The DoD is one of the few organizations in the government who has had decades of successful interaction with a multinational organization. NATO has provided a unique framework, unlike many of the multinational bodies, by possessing clear objectives, a solid structure, and a common bond between participants. The DoD must realize that as

globalized security changes and broadens, so must its affiliations. European security, for better or worse, is migrating toward the EU. The DoD should establish direct interaction with the EU to discuss items of mutual interest like export policy and security.<sup>34</sup> The more integrated the DoD can become in the allied security and economic apparatus, the more effective it will be in influencing and implementing policy. Furthermore, NATO should have a mechanism to review trade issues.<sup>35</sup>

As with the UK Meteor missile case, some decisions are not optimal, but they are necessary for alliance cohesion. The DoD may be required to buy European products over a comparable US version, or accept less than optimum solutions to “grease” the wheels of cohesion. Edward Levine agreed that if in the end it supports a more effective security regime, then the compromise might be justified.<sup>36</sup>

Changing perceptions within the DoD will not be easy: “...the culture of the defense establishment is not naturally an open one; it has traditionally relied on secrecy as a means of bolstering military advantage, and therefore the connections required to maintain ties to the outside can challenge standard operating procedures.”<sup>37</sup> Time to evolve.

### **Support Joint Ventures**

The US is offering to share cost, technology, and capability of the next generation Joint Surveillance Target Attack Radar System (Joint STARS) with its NATO allies, but the French and UK are each developing their own capability. Germany, Italy, and the Netherlands joined the French team, Canada, Denmark, Luxembourg, and Norway have linked with the US, and the UK is going it alone—what a waste!<sup>38</sup> Rick Kirkland suggests that the US needs to harmonize its requirements and Europe needs to

homogenize them.<sup>39</sup> Whatever the case, its time to start thinking smartly about saving money and improving security. The Joint Strike Fighter may be the precedent that countries are looking for.

There has been a revolution in military affairs and it occurred with airpower over the past decade. An RMA is not easy to define, but it is usually characterized by a change in technology, tactical employment, and strategic organization. Stealth, global navigation, precision, and real-time intelligence to the cockpit are some of the technology pieces. Small strike packages, with little protection, and conducting surgical strikes on enemy vital nodes are part of the employment piece. Composite air wings and Air Expeditionary Forces are some of the organizational changes that have occurred in the employment of airpower.

This is not meant to demean the other services. Armies and Navies have been in existence for millennium, and they have had countless RMAs. Airpower, which emerged on the scene about 90 years ago, deserves a few RMAs to catch up. What has that got to do with joint programs? Its important, because a critical review is going on inside the walls of the Pentagon right now to determine what is vital to future warfighting capability. The decisions could also have a dramatic effect on the DoD's ability to form collaborative partnerships.

One of the major decisions facing Pentagon leadership is what to do with three different fighter aircraft programs: the F/A-18E/F, the F-22, and the JSF. Arguably, two of these airplanes are on the future side of the RMA, while the other is not. Those reading this paper might think that an Air Force officer is advocating his service's position once again. Hopefully, it goes deeper than that. The Joint Strike Fighter will

provide all our services, and those of some of our most trusted allies, with a capability that does not exist in any other military in the world.

To cut the JSF program would not only be devastating to the American military, but it would be an enormous embarrassment to the US's credibility in conducting joint programs. The lack of trust engendered would carry with the US for years.<sup>40</sup> In addition, the decision would cripple the US aircraft industry, whose hopes for future fighter sales are predominantly riding on one aircraft. Without the JSF, the only competition for the Eurofighter, Rafale, and Gripen would be an upgraded F-16, which although good, would probably have difficulty overcoming European resentment and protectionism.

US defense experts are evaluating inefficient and duplicative programs and policies within the DoD, before pursuing the "transformation" of the services. This is an appropriate action considering the detrimentally competitive nature of the services over budgets and programs inside the Pentagon. Hopefully, they will have the foresight to not only view the defense ramifications of their decisions, but they will appreciate the economic and foreign policy issues at stake as well.

### **Negotiate An Arms Control Agreement With Teeth**

A recent editorial in *The Washington Post* lambasted the DoD for selling advanced F-16 fighters to Chile for \$600M, after two decades of preventing the flow of high-tech arms to Latin America. Not only is the sale destabilizing to the surrounding countries of Brazil and Argentina, but also as a result of the purchase, 3% of the household earnings from each Chilean, for the next ten years, will be spent on paying for these aircraft. Lockheed Martin, the maker of the F-16, reasoned with the Clinton Administration that if the US did not sell to the Chileans, the French or Swedes would.

The editorial further describes a failed initiative for a 2-year moratorium on buying advanced weapons in Latin America. Former President Carter led the negotiations, but they fell through when out of 27 nations, only Chile refused to sign the agreement.<sup>41</sup>

Could the US have offered other assurances and incentives in order for Chile to forego the purchase? Did the US allow the Carter agreement to be scuttled because of the opportunity to make major defense sales in Latin America? While these questions may never be answered, the story will be repeated many times in the future, unless someone takes the initiative.

Most of this paper is dedicated to sharing technology with others, but in the end, the US and its allies appear to be in an arms race with each other. The US is driven to improve capability, in part because of the capabilities of potential enemies, but also to stay ahead of the systems that it exports. Do countries need the right to self-defense? Of course, but protection could also come—in part—in the form of assured support in case of conflict.

Admittedly, assured support can be an arbitrary term, since the timeliness of support is critical to a country that is being overrun by its enemy.<sup>42</sup> However, the basis of alliances has always been a certain degree of internal capability combined with allied support. The degree with which the US and its partners can provide each other confidence in their collective capabilities and commitments will dictate the level of indigenous weaponry that is necessary. As Jim Durso cautioned, the reaction to aggression has to be “immediate and unreserved” if an alliance is to succeed.<sup>43</sup> Furthermore, as global economies become more intertwined, the cost of conflict will grow in significance.

The defense industry around the world has collapsed to a small number of major suppliers. The time is ripe to propose an arms agreement that will slow the proliferation of certain advanced technologies, whether they are dual-use or strictly defense related. Lesser technologies may be more difficult to control, such as small arms, due to their ease of production. If the powerful nations of the world can work on the demand side by offering security assurances, and work on supply side, by pulling sales forces out of the developing world, perhaps there is a chance to reign-in proliferation.

The current non-binding, minimal reporting regime under Wassenaar is a start, but much could be done. The difficult decisions are typically not what to export, but to whom. Those difficulties must be resolved, but nothing will proceed without opening negotiations. The US has a rare opportunity by coming into the negotiations from a position of dominant strength. It has the most powerful military, possession of the most sophisticated weapons and technology, and control of over half the world's export market. Of course it will not be easy, and the US may have to give up certain sectors or markets and make other concessions to reach agreement, but the benefits could outweigh the costs.

## **Conclusion**

There is no disagreement that the world has experienced tremendous change in the past decade as a result of the acceleration of globalism. Farmers may continue to bombard McDonald's restaurants, but movement is inexorably forward towards a more integrated society. In his book, *Non-Zero: The Evolution of Human Destiny*, Robert Reich describes a world that is ever more closely aligned—driven by changes in communications and transportation. It may be necessary to give up some personal

freedom to gain greater security, prosperity, and community freedoms. He argues, as countries become more tightly integrated, there will be greater friction, but the increased benefits will exceed the sacrifices.<sup>44</sup>

Globalization also has its dark side, “Regions, countries, and groups feeling left behind will face deepening economic stagnation, political instability, and cultural alienation. They will foster political, ethnic, ideological, and religious extremism, along with the violence that often accompanies. They will force the United States and other developed countries to remain focused on “old-world” challenges while concentrating on the implications of “new-world” technologies at the same time.”<sup>45</sup>

Fueling this strife will be a proliferation of weapon systems and suppliers. To deny a state its primary duty of protecting its society would be unjust, but to allow rogue nations to develop capabilities to threaten neighbors must also be prevented. Undeniably, the defense industry has the right and the obligation to create jobs, maximize profits, and create international alliances that will assure future success. However, the end use and user of these lethal tools must mitigate industry’s economic zeal.

It is the duty of America’s instruments of power to achieve a balance between the forces of economics, security, and politics by creating laws and policies that foster global capitalism, but protect its vital interests. This is no more apparent than in the defense trading policies that are enacted. To build on the Cold War model is no longer an option. If the Defense Department is to foster coalition capabilities and cohesion, it requires access to foreign technologies, and the ability to share the burden of global security with its trusted allies.



A study by the United States Commission on National Security in the 21<sup>st</sup> Century concluded, “Continuing trade liberalization remains a key to global economic advance, particularly for those regions, countries, and selected economic sectors in advanced countries—including the United States—whose trade remains shackled by protectionist policies. Bilateral and regional approaches (in addition to the global system represented by the WTO) should be encouraged.”<sup>46</sup> Gone are the days when the US possessed nearly all the advanced defense technology, and it could protect them fastidiously. A plethora of countries are now collaborating to produce and export systems that threaten US regional security, and the US can do little to stop them. Continuing to hoard readily available technology is economically inefficient and technically impractical.

Unbridled proliferation around the world does not mean the US should abandon its crown jewels of technology and join in the selling frenzy. There are still, and always will be, technologies that only the US and its closest allies possess, which should be tightly guarded for a time. Equally important, US integration and manufacturing genius, along with critical processes and materials, should be defended. The issue is defining what are those critical pieces?

Finally, the central theme of this paper is international cooperation: Cooperation on regional defense, pooling resources, controlling conventional weapons, sharing advanced technology, and enforcing export policy compliance. In past centuries, Britain had the unique position of possessing a 21-mile defensive water barrier between themselves and their closest competitors. As technologies improved, that barrier no longer provided the security it once offered.

America's barrier is also narrowing with major strategic shifts in the proliferation of technology and asymmetric threats. The US has often preferred to act unilaterally with little dependence on its allies. That option, while still important, is no longer the primary method of employing political or military power. "Effective governance will increasingly be determined by the ability and agility to form partnerships to exploit increased information flows, new technologies, migration, and the influence of non-state actors."<sup>47</sup>

The Department of Defense has taken a step forward with the DTSI initiative, while pulling the Department of State in its wake. A cultural change is occurring, and the time may be ripe for a more revolutionary step to redefine American's relationship between technology and security. The new administration is laden with defense-savvy leaders who could take on the challenge. The question is, "will they?"

### Notes

<sup>1</sup> Defense Science Board, *Task Force on Globalization and Security*, vii.

<sup>2</sup> Harris.

<sup>3</sup> *Global Trend 2015*, 42.

<sup>4</sup> Ashbourne, *Opening the US Defense Market*, 18.

<sup>5</sup> Brink Lindsey, Daniel T. Griswold, and Aaron Lukas, *Seattle and Beyond: A WTO Agenda for the New Millennium*. Paper. (Washington D.C.: CATO Institute, 3 April 2000), 58.

<sup>6</sup> Defense Science Board, *Task Force on Globalization and Security*, viii.

<sup>7</sup> Thompson.

<sup>8</sup> William Owens, "National Security In A New World," address, George Washington University, Washington, D.C., 29 Nov 2001.

<sup>9</sup> Defense Science Board, *Task Force on Globalization and Security*, viii, 3.

<sup>10</sup> Kirkland.

<sup>11</sup> Dickson.

<sup>12</sup> Durso, 21 March 2001.

<sup>13</sup> "Proposed U.S. Arms Export Agreements From January 1, 2000 to June 30, 2000," 1.

<sup>14</sup> Hofgard.

## Notes

- <sup>15</sup> *Global Trend 2015*, 42.
- <sup>16</sup> *Defense Restructuring and the Future of the U.S. Defense Industrial Base*, 29.
- <sup>17</sup> *Ibid.*, 30.
- <sup>18</sup> Daniel T. Griswold, *WTO Report Card: America's Economic Stake in Open Trade*. Paper (Washington D.C.: CATO Institute, 3 April 2000), 8.
- <sup>19</sup> Defense Science Board, *Task Force on Globalization and Security*, v.
- <sup>20</sup> Griswold, 4.
- <sup>21</sup> *Ibid.*, 5.
- <sup>22</sup> Lindsey, 33.
- <sup>23</sup> The recoupment tax is still charged to many buyers, but the tax to NATO, Japanese, and Australian allies is usually waived. Jim Durso, 21 March 2001.
- <sup>24</sup> Chinn.
- <sup>25</sup> Defense Science Board, *Task Force on Globalization and Security*, 20.
- <sup>26</sup> *Ibid.*, iv.
- <sup>27</sup> Bitzinger interview.
- <sup>28</sup> Griswold, 3.
- <sup>29</sup> Kirkland.
- <sup>30</sup> Bitzinger interview.
- <sup>31</sup> Markusen, 422.
- <sup>32</sup> *Seeking A National Strategy: A Concert For Preserving Security And Promoting Freedom*, report (Washington D.C.: The United States Commission on National Security/21<sup>st</sup> Century, 15 April 2000), 6.
- <sup>33</sup> *Ibid.*, 11.
- <sup>34</sup> Zakheim, 43.
- <sup>35</sup> Defense Science Board, *Task Force on Globalization and Security*, 65.
- <sup>36</sup> Levine.
- <sup>37</sup> Elizabeth Sherwood-Randall, "Managing the Pentagon's International Relations," in *Keeping the Edge*, 243.
- <sup>38</sup> Frank Wolfe, "Air Force Wants European Collaboration On Radar Development," *Defense Daily*, 30 November 2000.
- <sup>39</sup> Kirkland.
- <sup>40</sup> Vyvyan.
- <sup>41</sup> "A Poor Sale," editorial, *The Washington Post*, 9 February 2001, A28.
- <sup>42</sup> Jim Durso points out that the UN charter dictates the support of countries under attack, but true assurance often means putting US military personnel on the ground, as in Europe and Korea. If the US had not stood up to protect Kuwait, it is questionable if they would have ever received any support other than UN sanctions against Iraq.
- <sup>43</sup> Durso, 21 March 2001.
- <sup>44</sup> Robert Wright, *Non-Zero: The Logic of Human Destiny*. (New York, N.Y.: Pantheon Rooks, 2000).
- <sup>45</sup> *Global Trend 2015*, 8.
- <sup>46</sup> *Seeking A National Strategy*, 11.
- <sup>47</sup> *Global Trend 2015*, 8.

## *Glossary*

AECA	Arms Export Control Act
AF	Air Force
BAe	British Aerospace
CSIS	Center for Strategic and International Studies
CFIUS	Committee on Foreign Investment In the United States
COCOM	Coordinating Committee for Multilateral Export Controls
DCI	Defense Capabilities Initiative
DoC	Department of Commerce
DoD	Department of Defense
DoS	Department of State
DTSI	Defense Trade Security Initiative
EPCI	Enhanced Proliferation Control Initiative
EADS	European Aeronautic Defense & Space Company
ESDP	European Security and Defense Policy
EU	European Union
FDI	Foreign Direct Investment
FMS	Foreign Military Sales
GAO	General Accounting Office
ITAR	International Traffic in Arms Regulations
JSF	Joint Strike Fighter
LOI	Letter of Intent
M&A	Mergers and Acquisitions
NATO	North Atlantic Treaty Organization
NSC	National Security Council
OCCAR	Organization for Joint Cooperation on Armaments

PLA	Peoples Liberation Army.
PRC	Peoples Republic of China
R&D	Research and Development
SECDEF	Secretary of Defense
SSA	Special Security Arrangement

## ***Bibliography***

- "A Poor Sale." Editorial. *The Washington Post*, 9 February 2001.
- Adams, Gordon. "The Transatlantic Defense Market and Fortress America: Obstacles and Opportunities." Final draft paper. Washington D.C.: Institute for Security Studies, Western European Union Chaillot Paper, Fall 2000.
- "Analysis of the Health of the U.S. Defense Industry." Presentation of key findings. Washington D.C.: JSA Partners, Inc. for the Office of the Assistant Secretary of Defense Industrial Affairs & Installations, 3 April 2000.
- Ashbourne, Alex. *Opening the US Defense Market*. Paper. London, U.K.: Centre for European Reform, n.p. On Line. Internet, 17 November 2000. Available from [www.cer.org.uk](http://www.cer.org.uk).
- Barringer, Felicity. "F.T.C. Approves Acquisition of Hughes Space by Boeing." *New York Times*, n.p. On Line. Internet, 27 September 2000. Available from <http://ebird.dtic.mil/Sep2000/ewoooo927ftc.htm>.
- Baumgardner, Neil. "Poland To Compete Lease Offers As Part of Long-Term Fighter Acquisition." *Defense Daily*, 13 November 2000.
- Bialos, Jeffrey P. "Re-inventing Defense Export Controls: A National Security Imperative." Address. Practising Law Institute, Washington D.C., 7 December 2000.
- Bischak, Greg. "Contending Security Doctrines and the Military Industrial Base." in *Arming the Future: A Defense Industry for the 21st Century*, Edited by Ann R. Markusen and Sean S. Costigan. New York, N.Y.: The Council on Foreign Relations Press, 1999.
- Bitzinger, Richard A. "Globalization in the Post-Cold War Defense Industry: Challenges and Opportunities." in *Arming the Future: A Defense Industry for the 21st Century*, Edited by Ann R. Markusen and Sean S. Costigan. New York, N.Y.: The Council on Foreign Relations Press, 1999.
- Bodner, James M., "Export Control Reform as a National Security Imperative," Address by Principal Deputy Under Secretary of Defense for Policy. Washington D.C.: 2000.
- Boese, Wade. "Bill Sets Terms for Allied Imports Under DTSL." *Arms Control Association Website*, n.p. On Line. Internet, 28 February 2001. Available from <http://www.armscontrol.org/ACT/nov00/dtsi.html>.
- Bovin, Dennis. "The Consolidation of the Defense Industry." Address. Defense Science Board. Washington DC, 7 February 2000.
- Brzoska, Michael, Wilke, Peter, and Wulf, Herbert. "The Changing Civil-Military Production Mix in Western Europe's Defense Industry." in *Arming the Future: A Defense Industry for the 21st Century*, Edited by Ann R. Markusen and Sean S. Costigan. New York, N.Y.: The Council on Foreign Relations Press, 1999.
- "Can Russia Deliver On Arms Sales?" *Christian Science Monitor*, 20 November 2000.

- Clark, Colin. "Pentagon Chiefs May Slow Pace On Globalization." *Defense News*, n.p. On Line. Internet, 21 September 2000. Available from <http://www.dean.usma.edu/socs/ECON/ens/news/>
- Coffman, Vance. "The Defense Industry Today: Implications for Transatlantic Cooperation." Remarks by the Chairman and Chief Executive Officer Lockheed Martin Corporation, Atlantic Council of the United States and The Centre for European Reform, Washington, D.C., 4 May 2000.
- "Cohen: British Aerospace-GEC Merger may Limit Competition." *Defense Week*, n.p. On Line. Internet, 21 September 2000. Available from <http://www.dean.usma.edu/socs/ECON/ens/news/1Mar Bae GEC.htm>.
- Cohen, William. Secretary of Defense to Madeline Albright, Secretary of State. Letter. Subject: Export Controls, 5 May 2000.
- Cupitt, Richard T. *Reluctant Champions: U.S. Presidential Policy and Strategic Export Controls*. New York, N.Y.: Routledge, 2000.
- Defense Restructuring and the Future of the U.S. Defense Industrial Base*. Report. Washington DC: Center for Strategic and International Studies, March 1998.
- Defense Science Board. *Preserving a Healthy and Competitive U.S. Defense Industry to Ensure our Future National Security*. Final Briefing. Washington D.C.: November 2000.
- Defense Science Board. *Task Force on Globalization and Security*. Final Report. Washington D.C.: Office of the Under Secretary of Defense for Acquisition and Technology, December 99.
- Drozdiak, William. "Old World, New Economy: Technology, Entrepreneurship Are Transforming Europe." *The Washington Post*, 18 February 2001.
- Economic Analysis of Export Controls*. Report. Washington D.C.: Office of Strategic Industries and Economic Security, Department of Commerce, n.p. On Line. Internet, 17 November 2000. Available from <http://www.doc-bxa.bmpcoe.org/eaec.html>.
- Fiscal Year 1999 655 Report: Analysis of the State Department's Report on Direct Commercial Sales Licenses*. Report. Washington D.C.: Federation of American Scientists Website, n.p. On Line. Internet, 19 January 2001. Available from <http://www.fas.org/asmp/profiles/655-99/dcs/655analysisfy99.htm>.
- Flamm, Kenneth. "Redesigning the Defense Industrial Base." in *Arming the Future: A Defense Industry for the 21st Century*, Edited by Ann R. Markusen and Sean S. Costigan. New York, N.Y.: The Council on Foreign Relations Press, 1999.
- Friedman, Thomas L. *The Lexus and the Olive Tree*. New York, N.Y.: Anchor Books, 2000.
- Fulghum, David A. "China Slips Past U.S. AWACS Ban." *Aviation Week & Space Technology*, 4 December 2000.
- Ganlsler, Jacques S. "Arming the Future: A Defense Industry for the 21<sup>st</sup> Century." Address. Aerospace Finance Conference, New York, N.Y., *Aviation Weekly*, n.p. On Line. Internet, 14 September 2000. Available from <http://www.acq.osd.mil/ousda/speech/aviationweekly.htm>.
- Gansler, Jacques. Interview with U.S. Defense Undersecretary for Acquisition and Technology. *Defense News*, n.p. On Line. Internet, 21 September 2000. Available from <http://www.dean.usma.edu/socs/ECON/ens/news/15Mar Gansler.htm>.

- General Accounting Office. *Defense Industrial Security: Weaknesses in U.S. Security Arrangements With Foreign-Owned Defense Contractors*. Report GAO/NSIAD-96-64, February 1996.
- General Accounting Office. *Defense Trade: Identifying foreign Acquisitions Affecting National Security Can Be Improved*. Report GAO/NSIAD-00-144, June 2000.
- General Accounting Office. *Foreign Investment: Foreign Laws and Policies Addressing National Security Concerns*.
- General Accounting Office. *Foreign Investment: Implementation of Exon-Florio and Related Amendments*. Report GAO/NSIAD-96-12, December 1995.
- Global Trend 2015: A Dialogue About the Future With Nongovernment Experts*. Report. Washington D.C.,: Prepared under the direction of the National Intelligence Council, December 2000. NIC 2000-01, n.p. On Line. Internet, 3 January 2001. Available from <http://www.cia.gov/publications/globaltrends2015/induex.html>.
- Gold, David. "The Changing Economics of the Arms Trade." in *Arming the Future: A Defense Industry for the 21st Century*, Edited by Ann R. Markusen and Sean S. Costigan. New York, N.Y.: The Council on Foreign Relations Press, 1999.
- Griswold, Daniel T. *WTO Report Card: America's Economic Stake in Open Trade*. Paper. Washington D.C.: CATO Institute, 3 April 2000.
- "Hamre Calls On Europeans to Put A Hold On Defense Industry Mergers." *Inside The Army*, n.p. On Line. Internet, 21 September 2000. Available from [http://www.dean.usma.edu/socs/ECON/ens/news/2Feb\\_Hamre\\_Bae.htm](http://www.dean.usma.edu/socs/ECON/ens/news/2Feb_Hamre_Bae.htm).
- Hamre, John J. "U.S.-Japan Defense Industry Cooperation in an Era of Globalization." Prepared remarks by Deputy Secretary of Defense to the Keidanren Defense Production Committee. Tokyo, Japan, 26 November 1999. *Defense Link*, n.p. On Line. Internet, 21 September 2000. Available from <http://www.defenselink.mil/speeches/1999/s19991126-depsecdef.html>.
- "Implement a National Strategy For Aerospace R&D Funding." White Paper. *Aerospace Industries Association of America Website*. n.p. On Line. Internet, 20 October 2000. Available from [http://www.aia-aerospace.org/issues/election2000/rd\\_elect2000.pdf](http://www.aia-aerospace.org/issues/election2000/rd_elect2000.pdf).
- "Increase U.S. Aerospace Access to The Global Economy." White Paper. *Aerospace Industries Association of America Website*. n.p. On Line. Internet, 20 October 2000. Available from [http://www.aia-aerospace.org/issues/election2000/global\\_econ\\_elect2000.pdf](http://www.aia-aerospace.org/issues/election2000/global_econ_elect2000.pdf).
- International Traffic in Arms Regulations*. Department of State, 22 CFR Ch. I, subchapter M, January 1999.
- Iritani, Evelyn, and Pae, Peter. "U.S. Satellite Industry Reeling Under New Export Controls." *Los Angeles Times*, 11 December 2000.
- "JSF Failure Would Bolster Global Prospects for Eurofighter, Rafale, Gripen." *Defense Daily International*, 2 October 2000.
- Lash, William H., and Griswold, Daniel T. *WTO Report Card II: An Exercise or Surrender of U.S. Sovereignty?* Paper. Washington D.C.: CATO Institute, 3 April 2000.
- Lindsey, Brink, and Griswold, Daniel T., Lukas, Aaron. *Seattle and Beyond: A WTO Agenda for the New Millennium*. Paper. Washington D.C.: CATO Institute, 3 April 2000.
- Loeb, Vernon. "2 Charged In Plot To Export Jet Parts" *Washington Post*, 10 December.



- Lucas, Aaron. *WTO Report Card III: Globalization and Developing Countries*. Paper. Washington D.C.: CATO Institute, 3 April 2000.
- Lumpe, Lora. "A Framework for Limiting the Negative Consequences of Surplus U.S. Arms Production and Trading." in *Arming the Future: A Defense Industry for the 21st Century*, Edited by Ann R. Markusen and Sean S. Costigan. New York, N.Y.: The Council on Foreign Relations Press, 1999.
- Markusen, Ann R., and Costigan, Sean S. *Arming the Future: A Defense Industry for the 21st Century*. New York, N.Y.: The Council on Foreign Relations Press, 1999.
- McEntee, Marni. "General Says NATO Needs Shared Arms." *European Stars and Stripes*, 1 December 2000.
- "Modernize The Export Control System." White Paper. *Aerospace Industries Association of America Website*. n.p. On Line. Internet, 27 September 2000. Available from [http://www.aia-aerospace.org/issues/election2000/export\\_control\\_elect2000.pdf](http://www.aia-aerospace.org/issues/election2000/export_control_elect2000.pdf).
- Muradian, Vago, "Allies Call On Albright to Reform Export Controls," *Defense Daily*, n.p. On Line. Internet, 23 March 2001. Available from <http://206.181.245.163/ebird/January00/e20000106allies.htm6>.
- Muradian, Vago, "U.S.-Europe Deals Unlikely Until DoD Crafts Merger Stance." *Defense Daily*, n.p. On Line. Internet, 21 September 2000. Available from [http://www.dean.usma.edu/socs/ECON/ens/news/9Dec\\_Mergers%20&%20Defense%20Panels.htm](http://www.dean.usma.edu/socs/ECON/ens/news/9Dec_Mergers%20&%20Defense%20Panels.htm).
- Muradian, Vago. "Weston: Global Consolidation Policies Needed Soon." *Defense Daily*, n.p. On Line. Internet, 21 September 2000. Available from [http://www.dean.usma.edu/socs/ECON/ens/news/8 Oct\\_Weston.htm](http://www.dean.usma.edu/socs/ECON/ens/news/8 Oct_Weston.htm).
- National Security Council. Memorandum for Record. Subject: Guidance on International Traffic in Arms Regulations (ITAR) Exemption Decision. 17 June 2000.
- "NSC Mulling Possible Plan for Foreign Purchases of U.S. Telecoms." *Inside the Pentagon*, 21 September 2000.
- Oden, Michael. "Cashing In, Cashing Out, and Converting: Restructuring of the Defense Industrial Base in the 1990s." in *Arming the Future: A Defense Industry for the 21st Century*, Edited by Ann R. Markusen and Sean S. Costigan. New York, N.Y.: The Council on Foreign Relations Press, 1999.
- Offsets in Defense Trade: An Annual Report to Congress*. Report. Washington D.C.: Office of Strategic Industries and Economic Security, Department of Commerce, n.p. On Line. Internet, 17 November 2000. Available from, <http://www.doc-bxa.bmpcoe.org/odtir.html>.
- Owens, William. "National Security In A New World." Address by the former Vice Chairman of the Joint Chiefs of Staff. George Washington University, Washington, D.C., 29 Nov 2001.
- "Pakistan To Sign Big Arms Export Deals With Several Countries." *Islamabad The News in English in FBIS International Press Highlights*, 12 February 2001.
- Pitofsky, Robert. Prepared Statement by the Chairman of the Federal Trade Commission Before The Armed Services Committee Subcommittee on Acquisition and Technology, United States Senate, Washington D.C., 15 April 1997.
- "Political Implications of Choosing New Fighter for Bulgarian Air Force Viewed." *Sofia Novinar in FBIS International Press Highlights*, 29 January 2001.

- “Proposed U.S. Arms Export Agreements From January 1, 2000 to June 30, 2000.” *Arms Control Association Website*, n.p. On Line. Internet, 28 February 2001. Available from <http://www.armscontrol.org/FACTS/hoofms.html>.
- PRC Acquisition of U.S. Technology. Report. Washington D.C.: n.p. On Line. Internet, 25 May 2000, Available from <http://www.washtimes.com/investiga/cox/01Acquisition.html>.
- “Remove Barriers To Public/Private Cooperation.” White Paper. *Aerospace Industries Association of America Website*. n.p. On Line. Internet, 20 October 2000. Available from [http://www.aia-aerospace.org/issues/election2000/barriers\\_corp\\_elect2000.pdf](http://www.aia-aerospace.org/issues/election2000/barriers_corp_elect2000.pdf).
- Reppy, Judith. “Dual-Use Technology: Back to the Future?.” in *Arming the Future: A Defense Industry for the 21st Century*, Edited by Ann R. Markusen and Sean S. Costigan. New York, N.Y.: The Council on Foreign Relations Press, 1999.
- Ricks, Thomas E., and Squeo, Anne Marie, Cole, Jeff. “Pentagon Is Encouraging More Mergers Between European, U.S. Defense Firms.” *Wall Street Journal*, n.p. On Line. Internet, 21 September 2000. Available from [http://www.dean.usma.edu/socs/ECON/ens/news/7Jul99\\_WSJ\\_TransAtlanticMergers.htm](http://www.dean.usma.edu/socs/ECON/ens/news/7Jul99_WSJ_TransAtlanticMergers.htm).
- “Russia, Iran Renew Alliance Meant to Boost Arms Trade.” *Washington Post*, 13 March 2001.
- Sapolsky, Harvey M., and Gholz, Eugene. “Private Arsenals: America’s Post-Cold War Burden.” in *Arming the Future: A Defense Industry for the 21st Century*, Edited by Ann R. Markusen and Sean S. Costigan. New York, N.Y.: The Council on Foreign Relations Press, 1999.
- Scarborough, Rowan. “Pentagon Kills Proposal to Let Navy Buy Foreign-Built Ships.” *Washington Times*, n.p. On Line. Internet, 21 September 2000. Available from <https://ca.dtic.mil/cgi-bn/ebird>.
- Security Assistance Act of 2000. Public Law 106-280. 106<sup>th</sup> Cong., H.R. 4919, 6 October 2000.
- Seeking A National Strategy: A Concert For Preserving Security And Promoting Freedom*. Report. Washington D.C.: The United States Commission on National Security/21<sup>st</sup> Century, 15 April 2000.
- Sherwood-Randall, Elizabeth. “Managing the Pentagon’s International Relations.” in *Keeping the Edge*.
- Schneider, Greg. “Allies Enlisted to Pay for Jet.” *The Washington Post*, 11 March 2001.
- Siddiqi, Ayesha, “An Indefensible Industry?” *Karachi Newslines in English*, 1-20 February 2000.
- Strass, Mark, and Way, Pennington. “Biden Holds Up Export License For CH-53Es For Turkey.” *Defense News*, 16 Nov 2000.
- “Sweden Offers Poland Gripen Planes on Conditions Similar to U.S. F-16 proposal.” *Warsaw Rzeczpospolita*, n.p. On Line. Internet, 22 March 2001. Available from <http://www.shape.nato.int/shapenews/2000/november/sa071100.htm>
- Technology Transfer to China*. Report. Washington D.C.: Office of Strategic Industries and Economic Security, Department of Commerce, n.p. On Line. Internet, 17 November 2000. Available from, [http://www.doc-bxa.bmpcoe.org/dmrr\\_chinatech.html](http://www.doc-bxa.bmpcoe.org/dmrr_chinatech.html).

- Tenet, George. "The worldwide threat in 2000: Global Realities of Our National Security (as prepared for delivery)." Statement by Director of Central Intelligence Before the Senate Foreign Relations Committee, Washington DC, 21 March 2000.
- "The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies." Fact Sheet. *Arms Control Association Website*, n.p. On Line. Internet, 28 February 2001. Available from <http://www.armscontrol.org/FACTS/wass00.html>.
- Third Party Arms Transfers: Requirements for the 21<sup>st</sup> Century*. Paper. Washington D.C.: The Atlantic Council of the United States, September 1998.
- Ulbrich, Jeffrey. "U.S. Changes Position On EU Military Forces." *Washington Times*, 11 Oct 2000.
- "United States Defense Trade Security Initiative." Summary fact sheets. Washington D.C.: *Department of State*, Dec 2000.
- "US to Announce Sweeping Changes to Arms Export Restrictions." *Agence France Presse*, n.p. On Line. Internet, 26 September 2000. Available from [http://www.geocities.com/cpa\\_blacktown/20000523exporafpfr.htm](http://www.geocities.com/cpa_blacktown/20000523exporafpfr.htm).
- "U.S. Total Exports to Individual Countries" and "U.S. Trade in Services by Major Category." Tables. *Department of Commerce*, n.p. On Line. Internet, 3 April 2001. Available from <http://www.ita.doc.gov/td/industry/otea/usfth/aggregate/H99t06.txt> and <http://www.ita.doc.gov/td/industry/otea/usfth/aggregate/H99t02.txt>.
- Volkman, Al. Acting Deputy Under Secretary of Defense. Address. Les Echos Conference on Restructuring & Transatlantic Links, Paris, France, n.p. On Line. Internet, 21 September 2000. Available from <http://search.cetin.net.cn/internet/DSTI/ACQ/ip/speeches/990415esechos.html>.
- Walker, Paul F. "Redefining National Defense: The Challenge of Cold War Politics and Economics on Capitol Hill." in *Arming the Future: A Defense Industry for the 21<sup>st</sup> Century*, Edited by Ann R. Markusen and Sean S. Costigan. New York, N.Y.: The Council on Foreign Relations Press, 1999.
- Wilke, John R., and Squeo, Anne Marie. "British Aerospace's GEC-Marconi Bid Faces Tough Antitrust Scrutiny in U.S." *Wall Street Journal*, n.p. On Line. Internet, 21 September 2000. Available from [http://www.dean.usma.edu/socs/ECON/ens/news/20Jul99\\_Bae-GEC.htm](http://www.dean.usma.edu/socs/ECON/ens/news/20Jul99_Bae-GEC.htm).
- Wolfe, Frank. "Air Force Wants European Collaboration On Radar Development." *Defense Daily*, 30 November 2000.
- Wolfe, Frank. "Gansler: Pentagon Open to Foreign Linkages." *Defense Daily*, n.p. On Line. Internet, 21 September 2000. Available from [http://www.dean.usma.edu/socs/ECON/ens/news/8Jul99\\_Gansler\\_Consolidation.htm](http://www.dean.usma.edu/socs/ECON/ens/news/8Jul99_Gansler_Consolidation.htm).
- Wright, Robert. *Non-Zero: The Logic of Human Destiny*. New York, N.Y.: Pantheon Books, 2000.
- Zakheim, Dov S. and Weinberger Sharon. *Toward A Fortress Europe?* Paper. Washington D.C.: Center for Strategic and International Studies, November 2000.